CITY OF PLYMOUTH
GENERAL PLAN

Adopted April 1986
Amended September 2001

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INTRODUCTION

SECTION 1.0: INTRODUCTION

1.1 Background and History

State of California Planning and Zoning law requires each city and county in California to prepare and adopt a comprehensive, long term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency's judgment bears relation to its planning. As explained by the State's General Plan Guidelines, an adequate general plan is one that, beyond meeting the minimum requirements of state law, establishes a useful guide for local decision making.

To be legally adequate, a general plan must address each issue prescribed by state law as it applies to the community; address each issue through data and analysis, policy, and an implementation program; be internally consistent and long-term; and cover all territory within the jurisdiction and adjacent related lands, while reflecting the needs of the regional population. There is also a "common sense" standard of adequacy which requires that the general plan focus on the issues of greatest concern, be organized and written in a manner so that it serves as a clear and useful guide for decision makers and citizens, and be available to all those concerned with the community's development.

The City of Plymouth previously adopted its general plan in the early to mid l970's. Because of changes to planning law at the state level, and due to changing local needs and issues, it was determined by the City Council that it was necessary to complete an update to the City's general plan in 1986.

Included in the document were six of the seven state required general plan elements - land use, circulation, conservation, open space, noise, and safety. The seventh element, housing, was revised separately and adopted in 1984, then updated in December 1985.

State law required that a general plan be kept current. The City of Plymouth, for this purpose, adopted an update of all six elements, except for the Housing Element, in April 1986. The amendments are incorporated within this document, and/or the separately bound Circulation Element and Housing Element, which are included as Appendices B and C, respectively. The 1986 action to amend the Plymouth General Plan included the finding that the previous General Plan and EIR were adequate to meet CEQA environmental review purposes of the 1986 document (California Government Code Section 15153 and 15166). The City's General Plan Housing Element, which had been previously adopted in December 1985, was updated and amended in July 1992. The City of Plymouth updated background information and technical data within the other elements of the General Plan in April 1993. In August 1994 the City incorporated its "Vision Statement" into the Land Use Element as well as amendments to the Housing Element needed in order to bring the Housing Element into conformance with the review criteria maintained by the State Department of Housing and Community Development. In May of 1995, a complete update of the Circulation Element was adopted.

A complete listing of modifications to the General Plan since its adoption in 1989 is

provided below:

- Ordinance No. 90-11 (October 25, 1990) amending the Conservation and Open Space Element to add a new implementation measure.
- Resolution No. 92-14 (July 9, 1992) adopting the Housing Element Update.
- Resolution No. 93-4 (April 22, 1993) updating the information database and modifying implementation measures.
- Resolution 94-7 (April 15, 1994) amending the land use map to annex various public sewer and water facilities including the water plant, the sewer plant, and the sewer spray irrigation areas.
- Resolution No. 94-18 (November 10, 1994) amending the Housing Element to address State conformity requirements and amending the Land Use Element to add community "vision" statements.
- Resolution 94-19 (December 8, 1994) correcting the listing of parcels and property descriptions in Resolution 94-7.
- Resolution 95-8 (March 9, 1995) adopting the May 1995 Circulation Element Update.
- Resolution 97-6 (February 27, 1997) amending the Housing Element to incorporate new survey results pertaining to housing conditions.
- Resolution 97-16 (July 10, 1997) amending the General Plan Circulation Map to remove the Plymouth Southeast Collector and Red Star Boulevard. In the 1995 Circulation Element, these roadways are to be removed from the 2014 map, but remain on the Long-Range Planning Options Map.

The subject September 2001 update of the General Plan incorporates all text changes resulting from these actions that have not already been made.

1.2 Planning Horizon

The time frame or "planning horizon" for this General Plan is 20 years -- 1995 through 2015. This 2001 Update was not a comprehensive review and update and the 1995-2015 horizon was retained during the 2001 General Plan Update. This 2001 General Plan Update did not include goal or policy changes, or modifications to land use designations or the sphere of influence. The majority of the textual changes were background information updates to reflect the current conditions within and around Plymouth.

1.3 Regional Planning Coordination

Every effort has been made to assure that this General Plan is consistent with overlapping or regional plans of significance including:

- the Amador County General Plan
- the Central Sierra Planning Area Housing Needs Plan
- the Amador County Unified School District Twenty Year Facilities Master Plan
- the Amador County Emergency Management Plan
- the Amador County Source Reduction Recycling Element and Household

Hazardous Waste Element
- the Amador County Regional Transportation Plan

1.4 General Plan Format

The Plymouth General Plan contains three main parts. Section 1.0 contains background, introductory, and administrative information. Section 2.0 contains goals, policies, and implementation measures that direct development within Plymouth, and Section 3.0 provides discussions and analysis of various relevant issues that are the foundation for the policy framework established in Section 2.0. These three main sections are followed by reference and citation information, and an appendix of pertinent related documents including the separately published Circulation Element and Housing Element.

1.5 Amendments and Updates

Under Section 65358(b) of the Government Code, the City may not amend any of the mandatory elements of the General Plan more than four times in any calendar year. This limitation does not apply to amendments requested and necessary for affordable housing (Section 65385[c]) and any amendment necessary to comply with a court decision in a case involving the legal adequacy of the General Plan (Section 65358[d][1]).

The Housing Element must be updated every five years according to a schedule codified in State law. The next Housing Element update will be due in 2002.

Financing plans that provide justification for mitigation fees adopted to implement the General Plan ("nexus" studies) must be reviewed after five years and annually thereafter per Section 66001.

All General Plan amendments require public notice and public hearings pursuant to Section 65350 et.seq. Any proposal to amend the General Plan must first be reviewed by the Planning Commission. Any recommendation for approval by the Planning Commission must be made by affirmative vote of not less than a majority of the Commission's total membership. The Planning Commission recommendation must be provided to the City Council in writing. The City Council must then hold its own hearing and meet the public notice requirements pursuant to Section 65090 of the Government Code. The City Council may only adopt a General Plan amendment by resolution.

When any one area of the General Plan is amended, it is important to check the entire General Plan to ensure internal consistency is maintained. Furthermore, General Plan amendments must be evaluated for their effects under the California Environmental Quality Act (CEQA). In addition, a proposed General Plan amendment must be referred to the Amador County Planning Department, the Local Agency Formation Commission (LAFCO), and any other affected State or federal planning agencies pursuant to Government Code Section 65352.

1.6 Availability of the Plan

The adopted General Plan must be available to the public at all times. That includes the main document, separately published elements, all maps, and all amendments to text or maps within any section or element that may have been adopted since the last update. Copies of the entire Plan as described should be available for purchase. All components of the plan must be reproducible to allow for copies pursuant to a public information request.

1.7 Project Consistency

All public and private development projects/plans/actions must be consistent with the General Plan. In performing consistency reviews, the City should compare the population density and building intensity proposed, with the assumptions upon which the Plan is based. Likewise the proposed project must also be reviewed to ensure consistency with the land use designations, goals and policies, and all other aspects of all adopted elements. If a project is found to be inconsistent in any manner it must be denied or the Plan amended.

SECTION 2.0
GOALS, POLICIES AND IMPLEMENTATION

SECTION 2.1 LAND USE ELEMENT

The land use element is one of the oldest elements required by law, in effect since 1955. It is the element with which the general plan is most closely identified and is the broadest of all general plan elements. As outlined in the California Government Code, the land use element "designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land."

In 1995, the City of Plymouth adopted the following list to describe its "vision" of what the City should be like in 20 years (approximately the year 2015). This "vision" statement is intended to help the community interpret and implement the other goals, policies, objectives and standards contained within the entire General Plan.

- In the year 2015 Plymouth will be recognized as a "small town"; a comfortable place with a "country" feeling, friendly people and a sense of community.

- The City's unique history will be evident not only in its well preserved historic buildings but also in newer building projects designed to enhance the City's Motherlode charm.

- The City's history will be most notable along Main Street where a revitalization effort will recreate an attractive and historic "village core".

- The revitalization effort will expand beyond Main Street to upgrade and beautify private and public properties throughout older parts of the city creating a source for local pride.

- Growth will occur around the downtown area and the Highway 49 corridor where the city will work with businesses and land owners to cooperatively, but firmly, implement the design standards necessary to achieve the common vision.

- The city will become larger in 2015 (total population 1800 to 3500) and the city limits and sphere of influence will be expanded.

- In order to assure that the area's rural character is not lost, only well planned, fiscally sound developments will be accepted and large areas for open space and agriculture will be preserved.

- The larger population base will help create a stable economy and improve the quality of life.

- The city will become the commercial and cultural "hub" of Northern Amador and

Southern El Dorado counties.

- Plymouth will become a place where people want to stop and visit.

- Publicly and privately owned services and facilities will be of high quality and affordable to local residents.

- The city's youth will be an active part of the city's present and future.

By its nature, the land use element maintains a link to all of the other plan elements. The following goals, policies, and implementation programs have been developed to be consistent with identified community values, critical local issues, and previously presented land use data and information. The land use element is very important toward realizing an efficient and effective land use pattern in the future.

2.1a Land Use Designations

The Land Use Map of the City illustrates the general land use designations which will guide future development patterns.

What follows are the descriptions of the land use designations and symbols which are reflected on the map.

1. Residential - Single Family (RS)

   The RS designation is applied to those areas where it is intended to preserve the integrity of existing single family neighborhoods, and to reserve lands best suited for future single family development. The RS designation is also applied to those lands where lower density, single family estates are appropriate, and in areas conducive to agricultural activity.

   Generally, RS areas should develop only where and when adequate facilities and services can be provided to serve them in an economical manner. They should be kept free of activities that produce excessive noise, air pollution, odor or heavy traffic. Development should be guided by design principles, which serve to enhance the rural character of the planning area.

   The maximum building density for lands under the RS designation is 7.25 dwelling units per net acre (based upon a minimum single family lot size of 6,000 square feet).

Insert Land Use Map

Based on this building density, the population intensity for lands under the RS designation would be 17.76 persons per net acre (using the 1990 Census figure of 2.45 persons per household in the City of Plymouth).

2. Residential - Multiple Family (RM)

The areas designated RM are intended to provide opportunities for development of multifamily dwellings, as well as single family uses. The RM designation is located near other centers of activity, such as schools, commercial areas, recreation areas, allowing for joint use of major access routes and places a greater number of persons at a convenient distance to facilities.

New multiple family residential structures intended for occupancy by three or more households should be allowed only after a use permit has been obtained in order to insure that all environmental and economic effects of each development are addressed.

Some locations in RM areas may be appropriate for commercial activities, such as bed and breakfast, or professional offices, provided that such activities are compatible with the neighborhood and do not create a public hazard or nuisance.

The maximum building density for lands under the RM designation is 21.75 dwelling units per net acre. Minimum lot size remains 6,000 square feet.

Based on this building density, the population intensity for lands under the RM designation would be 53.29 persons per net acre (using the 1990 Census figure of 2.45 persons per household).

3. Commercial (C)

The C designation indicates areas where a broad range of light and heavy commercial activities would be desired. Types of uses being considered as commercial for the purposes of this designation include retail sales, eating and drinking establishments, professional or business offices, automotive sales and service, hotels and motels, storage, wholesaling, processing services, light assembly, and similar developments or activities that would normally be considered "commercial" activity.

Commercial areas are so designated in order to continue the economic well being of the City, and enhance, the City's position as a commercial center of the County. Established commercial areas should provide a range of services which meet resident needs; provide variety and interest to visitors, recognizing the importance of the tourist industry; and be protected from the encroachment of incompatible land uses which would be detrimental to existing land uses. Developing commercial areas should compliment - functionally and visually - existing commercial areas.

In instances where multifamily dwelling development is proposed in C designated areas, the population density and building intensity standards of the RM designation apply.

Minimum parcel size shall be 6,000 square feet and building coverage may be 80 percent. A site plan is required.

4. Light Industrial (LI)

Light industries are those which produce few negative impacts, either because of the nature of their operations or the design of their project, so that they may be located close to residential and commercial areas. Negative impacts which must be reduced to a negligible level are noise, air and water pollution, light, vibration, electronic interference, and effects of hazardous materials. Adequate area for buildings, parking and loading, indoor and outdoor storage and potential expansion should be provided. Land set aside for buffer zones and screening between adjacent uses may be less than for heavy industrial uses.

Where residential uses may be considered through use permit or other provision, density shall conform to the Single Family (SF) classification unless this use is combined with other commercial or residential uses in a Planned Development and a site plan is approved by the Planning Commission.

Intensity shall be based on type and scale of operation as well as nuisance potential and environmental impact mitigation. Minimum parcel size shall be 6,000 square feet and building coverage may be 80 percent. A site plan showing adequate area to meet the intent of these provisions should be approved by City Council or Planning Commission in written findings.

5. Industrial (I)

The I designation is applied to lands conducive to manufacturing or light industrial activity. They have been located in such a manner so as to be harmonious with the business environment, and to identify potential areas where industrial use is to be encouraged. They are not intended to displace or disallow other non-industrial business activities. It is the City's intent to preserve and enhance the quality of the environment in industrial areas while preventing adverse effects of industrial development on the balance of the community. This can be best insured through production of an environmental impact report for new industrial developments which may have significant effects on the environment, as determined through an initial study prepared by the Environmental Review Coordinator for the City.

It is anticipated that by encouraging new industries to locate in the City, the local economic base will be broadened, and will reflect well on the business community. Location of industrial area has been made after due consideration of enough land

being available for buildings, parking, expansion, and buffer from adjacent uses; a full range of public services available; access to the circulation network; labor pool readily available; and the opportunity for good community relations.

Where residential uses may be considered through use permit or other provision, density shall conform to the Single Family (SF) classification unless this use is combined with other commercial or residential uses in a Planned Development and a site plan is approved by the Planning Commission.

Population density does not specifically apply to I designated lands in that they are a non-residential area. Intensity shall be based on type and scale of operation as well as nuisance potential and environmental impact mitigation. Minimum parcel size shall be 6,000 square feet and building coverage may be 50 percent. A site plan showing adequate area to meet the intent of these provisions should be approved by the City Council or Planning Commission in written findings.

6. Institutional (INS)

This designation is applied to major buildings, facilities, or uses of city, county. state, or federal agencies or departments. It also is applied to other general welfare or community service land uses such as schools, libraries, museums, churches, hospitals, and the like.

Population intensity and building intensity standards are the same as those for the Industrial designation.

7. Open Space (OS)

The OS designation can include any parcel or area of land or water which is essentially unimproved and devoted to an open space use. Open Space Uses as listed in General Plan Requirements (California Government Code Section 65560) are summarized below. According to State law, County General Plans must include an Open Space Element which addresses the "comprehensive and long range preservation and conservation of open space within its jurisdiction."

Open Space uses generally include the following:

1. Areas required for preservation of plant and animal life

2. Areas required for ecologic and other scientific study purposes

3. Areas managed for production of resources including forests, range land, agricultural lands, areas required for groundwater recharge and areas containing major mineral deposits.

4. Areas reserved for outdoor recreation including areas of outstanding scenic,

historic or cultural value; areas suited for parks and recreation; and corridor areas such as river and stream banks, utility easements) trails and scenic highways.

5. Areas reserved for public health and safety reasons such as earthquake fault zones, unstable soil areas, flood plains, watersheds, high fire risk areas and areas requiring preservation for protection of air or water quality.

Minimum lot size may be less than 6,000 square feet only in instances where the lot is permanently precluded from the possibility of development. Building coverage must not exceed 10 percent of parcel or lot area.

8. Planned Development (PD)

Areas designated PD are intended for planned land use development by means of a flexible but comprehensive plan which integrates developed land use types, circulation systems, necessary services, and undeveloped areas which conserve open space and natural features. Planned development can accommodate a variety of residential, commercial and industrial uses, or other uses or combinations of uses, which can be made appropriately a part of a planned land use development. The use of PD shall be consistent with the general plan, compatible with surrounding uses and shall not be detrimental to the public health, safety and general welfare of the City.

Population intensity and building density standards for PD areas are set according to the development plans approved on a project-by-project basis. However, the standards for the RS and RM designations do serve as a guide for development standards in PD areas.

2.1b Land Use Goals, Policies, and Implementation Measures

GOAL 2.1.1: Provide for a balanced and effective arrangement of land uses while maintaining the rural atmosphere, quality of life, and separate identity of the City.

GOAL 2.1.2: Achieve an orderly and efficient pattern of community development consistent with economic, social, and environmental needs.

GOAL 2.1.3: Provide for a diversified economic base with a range of employment opportunities for all residents.

GOAL 2.1.4: Revitalize the downtown as the heart of the City.

GOAL 2.1.5: Coordinate land and transportation planning measures/actions to foster reduced dependence on the automobile and increased opportunities for alternative modes of travel.

GOAL 2.1.6: Provide adequate levels of public service in logical increments.

GOAL 2.1.7: Plan for diverse educational opportunities and adequate school facilities.

GOAL 2.1.8: Preserve and enhance the historical and cultural resources of the area.

POLICY 2.1.1: Ensure that City Council and Planning Commission land use decisions are consistent with the General Plan.

POLICY 2.1.2: All areas of the City shall have all necessary services available, and proper access to circulation routes.

POLICY 2.1.3: Maximize opportunities to bring out-of-town dollars into the community.

POLICY 2.1.4: Actively promote business development activities that will generate local employment opportunities and help diversify the local economy.

POLICY 2.1.5: Designate commercial areas along routes with high traffic patterns.

POLICY 2.1.6: Protect areas designated for business use from encroachment by non-commercial activities.

POLICY 2.1.7: To the extent feasible, locate new and rehabilitate property and structures serving the public.

IMPLEMENTATION 2.1.1: Maintain a general plan consistency checklist to be included as part of all land use permit processes.

IMPLEMENTATION 2.1.2: As required by law, the City Planning official or Commission shall report once a year to the City Council on the status of the General Plan, progress in its implementation, and whether or not amendments would be in order.

IMPLEMENTATION 2.1.3: All capital improvements, real property acquisitions, and disposals considered by the City or other public agencies shall be reviewed for consistency with the general plan.

IMPLEMENTATION 2.1.4: Utilize the provisions of the State CEQA Guidelines and City EIR Guidelines in order to assure project consistency with the general plan.

IMPLEMENTATION 2.1.5: Work with the County and the 26th Agricultural District to assure maximum usage of the fairgrounds.

IMPLEMENTATION 2.1.6: Participate in local economic and employment development activities, as appropriate. which will attract new business activity to the City.

IMPLEMENTATION 2.1.7: Secure grant funds, local agencies, and/or volunteer resources to investigate the feasibility of establishing an industrial park complex within the City. A study should include: a) location of suitable sites; b) options for City or private acquisition; c) costs for provision of necessary services; d) prospects and methods for obtaining firm commitments from businesses/employers; e) available grants or other financial assistance; f) feasibility of including City corporation yard facilities within the complex; g) overall cost/benefit analysis to determine appropriate level of City or public involvement.

SECTION 2.2 CIRCULATION ELEMENT

The circulation and transportation network of any community is critical in determining that community's land use pattern. The circulation element joins the land use element as being the oldest of the required plan elements. The California Government Code is quite clear as to the element's requirements, "consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan".

Appendix B contains the City's Circulation Element adopted in May of 1995. The City is working on an amendment to the Circulation Element to address parking, aviation, rail, paratransit, and airports. Additionally, the City is preparing a separate Public Services and Facilities Element to address the required discussion of "other local public utilities and facilities" including energy, water, sewage, storm drainage, and communications.

SECTION 2.3 HOUSING ELEMENT

The Housing Element is a State mandated element of the General Plan intended to guide development of housing in the City. There are four main components to the Element including an assessment of housing needs in the City; an inventory of housing resources and constraints relevant to meeting those needs; a statement of goals, quantified objectives and policies; and a housing program.

The Plymouth Housing Element is contained in Appendix C. It was adopted July 9, 1992 and subsequently amended in November of 1994 and February of 1997. It was certified by the California Department of Housing and Community Development on March 24, 1997 as being in full compliance with State housing element law (Article 10.6 of the Government Code).

SECTION 2.4 CONSERVATION AND OPEN SPACE ELEMENT

This element combines two of the State mandated general plan elements. Both added to the statutes in 1970, the scope of the conservation element is such that it is closely related to, and in many instances overlaps, the concerns of the open space element. As provided by the Government Code. The conservation element is intended to address the "conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources."

Next to the land use element, the open space element is the broadest in scope. The open space element is intended to protect and preserve "open space lands", as defined in the statutes as follows:

> "Open-space land" is any parcel or area of land or water which is essentially unimproved and devoted to an open space use as defined in this section, and which is designated on a local, regional or state open space plan as any of the following:
>
> (1) Open space for the preservation or natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands
>
> (2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food and fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
>
> (3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
>
> (4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

The following goals, policies and programs will provide the City of Plymouth with a conservation and open space plan which will serve to meet the needs of the community for the future. The plan recognizes the need for conservation and open space opportunities in order to provide a well balanced community.

GOAL 2.4.1: Promote the wise and careful use of natural resources located within the City.

GOAL 2.4.2: Preserve identified open space areas to restore and enhance the rural character of the City.

GOAL 2.4.3: Provide recreational opportunities for all ages of the community.

GOAL 2.4.4: Protect and improve the quality of the natural environment.

POLICY 2.4.1: Protect Plymouth's remaining mineral resources from conflicting, incompatible land uses.

POLICY 2.4.2: Mining activities shall be required to monitor and control air, water, noise and scenic degradation.

POLICY 2.4.3: Any surface mined lands shall be reclaimed following completion of surface mining operations to a usable condition which is readily adaptable to alternative land uses.

POLICY 2.4.4: The City shall inform and provide adequate time for response to the Central Valley Regional Water Quality Control Board of any major industrial project or other development proposal that has the ability to significantly effect surface or groundwater quality.

POLICY 2.4.5: New development may be required to thoroughly assess and report upon its potential effects upon the City's water supplies.

POLICY 2.4.6: The City shall consult with the Amador County Air Pollution Control District regarding any new development project which has the potential to adversely impact ambient air quality.

POLICY 2.4.7: Preserve critical wildlife habitats which enhance a rural atmosphere for present and future residents of Plymouth.

POLICY 2.4.8: Require open space/recreational land set-asides or other acceptable measures in new residential development projects.

POLICY 2.4.9: Encourage a mixture of recreational opportunities to meet community needs.

POLICY 2.4.10: Preserve and enhance the history and pre-history of Plymouth.

IMPLEMENTATION 2.4.1: Through the general plan land use map, and the zoning ordinance, designate land uses such that compatible and incompatible land uses with mining activity are avoided, or at least minimized.

Incompatible land uses with mining generally require a high public or private investment in

structures, land improvements and landscaping and would prevent mining because of the higher economic value of the land and its improvements.

Examples of such uses include:

- High density residential
- Low density residential with high unit value
- Public facilities
- Intensive industrial
- Commercial

Compatible land uses with mining generally require a low public or private investment in structures, land improvements and landscaping and would allow mining because of the low economic value of the land and its improvements.

Examples of such uses include:

- Very low density residential (eg. 1 unit per 10 acres)
- Recreation (public/commercial)
- Agricultural
- Silvicultural
- Grazing
- Open space

IMPLEMENTATION 2.4.2: For any surface mining proposals, implement the provisions of the City's Surface Mining and Reclamation ordinance.

IMPLEMENTATION 2.4.3: Enforce the provisions of the State CEQA Guidelines and City EIR Guidelines for evaluation of environmental impacts associated with mining activity.

IMPLEMENTATION 2.4.4: A buffer area of a minimum of 200 feet shall be required to separate mining or other heavy industrial activity from existing, zoned, or planned residential areas.

IMPLEMENTATION 2.4.5: Seek assistance from the state or federal government in securing a thorough assessment of groundwater quantities available for the City's long term needs.

IMPLEMENTATION 2.4.6: Require that development in riparian areas be done such that minimum disturbance to the land is achieved, while preserving the inherent qualities of the natural environment.

IMPLEMENTATION 2.4.7: Consult with the Department of Fish and Game regarding any major new development proposal lying in undeveloped areas that are greater than five contiguous acres in area.

IMPLEMENTATION 2.4.8: Incorporate recreation areas and/or open space areas in Special Planning developments.

IMPLEMENTATION 2.4.9: Work with the County of Amador to investigate and apply for possible grant sources for recreation facilities.

IMPLEMENTATION 2.4.10: Through the CEQA process, consider the application of impact fees to offset identified recreational impacts as a result of new development.

IMPLEMENTATION 2.4.11: Notify the North Central Information Center at Sacramento State for review and comment upon any major development proposals or redevelopment proposals that involve complete removal of existing improvements to determine historic concerns.

IMPLEMENTATION 2.4.12.: Seek out official State Historic Landmark status for eligible historic properties in the Plymouth area.

IMPLEMENTATION 2.4.13: Through the City Historian, the Plymouth Oral History Project, and other resources, compile and publish transcripts, photographs and other information that would enhance appreciation of the City's unique history.

SECTION 2.5 NOISE ELEMENT

The noise element became a required general plan element in 1971. The General Plan Guidelines explains that a noise element "examines noise sources yielding information to be used in setting land use policies for compatible uses and for developing and enforcing a local noise ordinance."

The noise information presented in the environmental setting portion of this plan is based upon on-site monitoring of noise generating locations (primarily the State highway), and noise sensitive receptors (the Plymouth Elementary School, for example). The data collected forms the basis for the goal, policy. and implementation programs described below.

GOAL 2.5.1: Achieve and maintain ambient noise levels that preserve the quiet, rural atmosphere of Plymouth.

POLICY 2.5.1: Enforce guidelines for compatible community noise exposure.

POLICY 2.5.2: Designate land uses so that potential adverse noise impacts are decreased.

POLICY 2.5.3: Establish maximum exterior (property line) noise levels.

POLICY 2.5.4: Protect and regulate existing ambient noise levels in rural and quiet areas.

POLICY 2.5.5: Protect against vibration and nuisance noise.

IMPLEMENTATION 2.5.1: The following noise levels shall be maintained within the boundaries of the land use designated areas that are indicated.

IMPLEMENTATION 2.5.2: New developments that have the potential to generate noise in excess of the above standards may be required to purchase and/or share proper noise monitoring equipment and provide periodic evidence that noise standards are not being exceeded.

IMPLEMENTATION 2.5.3: Developments that generate noise across land use designation boundaries may be required to construct and/or pay for walls, berm, vegetation, or other barriers necessary to alter the path of noise.

IMPLEMENTATION 2.5.4: Noise sensitive land uses should not be allowed near industrial areas, or special planning areas where industry may be located, unless the construction of adequate noise barriers can be assured.

IMPLEMENTATION 2.5.5: All residential or other noise sensitive land use should not be permitted within 100 feet of roadways where speeds of 25 to 45 MPH are allowed, or

within 200 feet where speed in excess of 45 MPH is allowed unless appropriate noise barriers or insulation are provided.

IMPLEMENTATION 2.5.6: Reduce vehicle noise emissions by strict enforcement of appropriate Vehicle Code requirements.

IMPLEMENTATION 2.5.7: Require compliance, where appropriate, with the State's noise insulation standards in all new developments.

Maximum Noise Levels in dB Leq

Land Use Designation	Between 8:00 a.m. and 5:00 p.m. on Normal Working Days	All Other Hours, Weekends and Holidays
RS	70	60
RM	70	65
C	77	70*
I	80	75*
INS	70	60*
OS	70	70*
SP	Interim 75**	Interim 60*

*Except for special circumstances as approved by use permit.
**Actual noise levels to be consistent with the above and established per development agreement.

SECTION 2.6 SAFETY ELEMENT

The safety element became a required general plan element in 1971. It originally dealt with issues relating to fire or other hazards. Then, in 1984, the element was combined with the previously required seismic safety element. Thus, the California Government Code now calls for a safety element "for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards.

The environmental setting portion of this plan has presented the pertinent information relating to geology, soils, public services, and hazards. The following goals, policies, and programs serve to not only address the concerns of the safety elements but also related concerns of the land use element (as it relates to the type and density of uses in hazardous areas), and the circulation element (as it relates to various safety oriented standards).

GOAL 2.6.1: Provide a safe and hazard free environment for the citizens of the City.

GOAL 2.6.2: Prevent loss of life, injury, and property damage due to natural or manmade hazards.

POLICY 2.6.1: All development proposals for which City approval is necessary may be required to present soils/geology reports prior to approval.

POLICY 2.6.2: All new developments shall be required to connect to the City sewage collection and treatment system, and pay any associated costs.

POLICY 2.6.3: All development proposals for which City approval is necessary shall be subject to requirements or conditions to control on- or off-site soil erosion, siltation, and sedimentation.

POLICY 2.6.4: For all new development proposals, the City will evaluate the need for maintenance or planting of vegetation wherever appropriate to maintain stability.

POLICY 2.6.5: Consider the imposition of impact fees or other acceptable measure upon new residential, commercial, industrial, or other development for the purpose of mitigating the development's impact upon public services or facilities.

POLICY 2.6.6: New development will be required to accurately identify any significant increase to natural surface water flow, and sewage flow,

and address on- and off-site impacts created by such flows.

POLICY 2.6.7: New development will be required to provide water systems that deliver complete, safe fire flows, to the satisfaction of the fire chief and/or City Engineer.

POLICY 2.6.8: Ensure that building code requirements pertaining to seismic safety be enforced for new developments, and in substantial rehabilitation of existing structures intended for human occupation.

POLICY 2.6.9: Ensure that any geologic/soils reports prepared on new development specifically address the possibility for subsidence due to mine collapse or other geohazard.

IMPLEMENTATION 2.6.1: Enforce the provisions of the California Environmental Act, and the City EIR Guidelines, for safety related associated with projects.

IMPLEMENTATION 2.6.2: Enforce the provisions of the Subdivision Map Act, and the City Subdivision Ordinance, calling for geologic and/or soils reports, where appropriate.

IMPLEMENTATION 2.6.3: All development proposals will be referred to the city engineer for review and recommendations regarding soil erosion, siltation or sedimentation.

IMPLEMENTATION 2.6.4: There appropriate, require the submittal of a tree and landscaping plan for review and approval by the City prior to issuance of any building permit for new development.

IMPLEMENTATION 2.6.5: Devise a simple checklist that will clearly indicate the direct, indirect, and cumulative costs associated with any proposed development project. The City should utilize this checklist to assess cost impacts for appropriate conditions of approval.

IMPLEMENTATION 2.6.6: Confirm with the County Building Department the manner in which seismic safety concerns are implemented through the Uniform Building Code.

IMPLEMENTATION 2.6.7: Obtain resources for assuring adequate citywide water quantity and pressure through grant or loan funding, and/or impact fees, benefit assessments or other local funding sources.

IMPLEMENTATION 2.6.8: Encourage the location of an ambulance service in the City.

IMPLEMENTATION 2.6.9: Continue to utilize Federal Insurance Administration Flood Hazard Boundaries Map as the adopted City flood hazard boundary map. Incorporate provisions to protect life and property within flood hazard boundaries in the City's zoning ordinance.

IMPLEMENTATION 2.6.10: The City should urge the Amador County Office of Emergency Services to complete an upgrade of the County's Emergency Management Plan to make the document more usable by all jurisdictions involved. City departments and other service agencies should be directed to actively cooperate and provide their own emergency plans in the effort.

IMPLEMENTATION 2.6.11: Initiate and conduct one or more disaster drills every five years in conjunction with the State Office of Emergency Services and the County Emergency Services system to insure all City offices and other involved agencies are prepared for a possible disaster.

SECTION 3.0
ENVIRONMENTAL SETTING

SECTION 3.0: ENVIRONMENTAL SETTING

3.1 Topography

The City of Plymouth lies on flat to gently rolling terrain located at the lower elevations of the Western Slope of California's Sierra Nevada (see Map #l). The benchmark elevation at the city is 1,086 feet. Changes in elevation across town vary less than one hundred feet. The city is traversed by several seasonal streams. They join together southwest of town and become the westward flowing Little Indian Creek.

3.2 Climate

The climate of the Plymouth area is hot and dry in the summer and mild and wet in the winter. Summer temperatures may occasionally exceed 100 degrees F. Winter temperatures may drop to 20 degrees F.

The growing season extends from the beginning of March to the beginning of December. Average annual rainfall is 24 inches. Most rain occurs between November and April. Snow is very infrequent.

Prevailing winds are generally from the west. Typically, air masses that move over the area originate on the Pacific and pass through the Coast Range and over the San Joaquin and Sacramento Valleys.

3.3 Geology

The City lies within the "Motherlode", a unique geological feature historically associated with mineral resources and mining. The Motherlode is situated in the western portion of the Sierra Nevada geological province -- a province identified as a fault block that tilts gently downward toward the west. This province is characterized by a broad belt of Paleozoic and Lesozoic metamorphosed sedimentary and volcanic rocks that are intruded by Mesozoic granitic rock. Major geologic structures in the region are oriented roughly parallel to the main axis of the Sierra Nevada range. The Mesozoic Amador series (metamorphosed sedimentary and volcanic rocks) Mariposa Formation (metamorphosed marine sediments) occur in the areas of Jackson and Plymouth. Chart #1 provides a summary of selected events from the geologic history of the Sierran gold belt (see Chart #1).

Most of Plymouth is underlain by rocks of the Mariposa formation (Jm - dark gray slate with subordinate tuft, graywacke and conglomerate). These rocks are predominantly the metamorphosed (changed and solidified) remnants of the bottom of an ancient inland sea which occupied much of the Western U.S. over 150 million years ago. Areas north and west of Main Street are underlain by the Logtown Ridge formation (Jlr - volcanic breccia,

Map 1 – Location Map

CHART 1
SELECTED EVENTS FROM THE GEOLOGIC HISTORY OF THE SIERRAN GOLD BELT

Geologic Era	Geologic Period	In Millions Yrs. Age	Duration	Geologic Event	Geologic Record
Cenozoic	Quaternary	1-2	1	• History of man • Resurrection of ancient channels • Glaciation • Canyon cutting robbing gold form earlier river channels	Historic record (mine tailings)
	Tertiary	60	58	• Uplift and faulting • Continuous volcanic activity • Release and deposition of gold form rocks and veins	Physiographic features gravel deposits
Mesozoic	Upper Cretaceous	95	35	• Erosion and removal of rocks 2 miles thick from top of Sierra • Tops of gold-bearing veins reached by erosion	
	Upper Jurassic	155	40	• Profound unconformity	
				Nevadan orogeny: • Infiltration of mineral bearing quartz veins into fractured rocks • Metamorphism of older rocks in contact with granite • Intrusion of batholith • Folding, crushing, faulting • Uplift of sediments from inland sea	Quartz Veins Mariposa slate Logtown Ridge formation
	Triassic	35	195	• Marine Depositions • Volcanism	
Paleozoic		500	300		
Pre-Cambrian		Indefinite 1300+			

Source: Olif P. Jenkins "Geologic History of the Sierra Gold Belt" from Geologic Guidebook Along Highway 49 The Mother Lode Country, (California Division of Mines, San Francisco, 1948) pp. 24 & 25.

tuff, pillow lava). These are remnants of volcanic activity which was widespread in the area more than 100 million years ago (see Map #2).

The geologic records of both these periods are complicated by episodes of folding and faulting which preceded formation of the Sierra Nevada 100 million years ago. During these periods of folding and faulting molten granitic magma was intruded deep within the earth's crust. As the magma cooled it caused the release of mineral-bearing solutions which filled fractures near faults in the overlying layers of rock. When these solutions cooled, they formed the quartz veins which contained gold that was discovered by miners centuries later.[1]

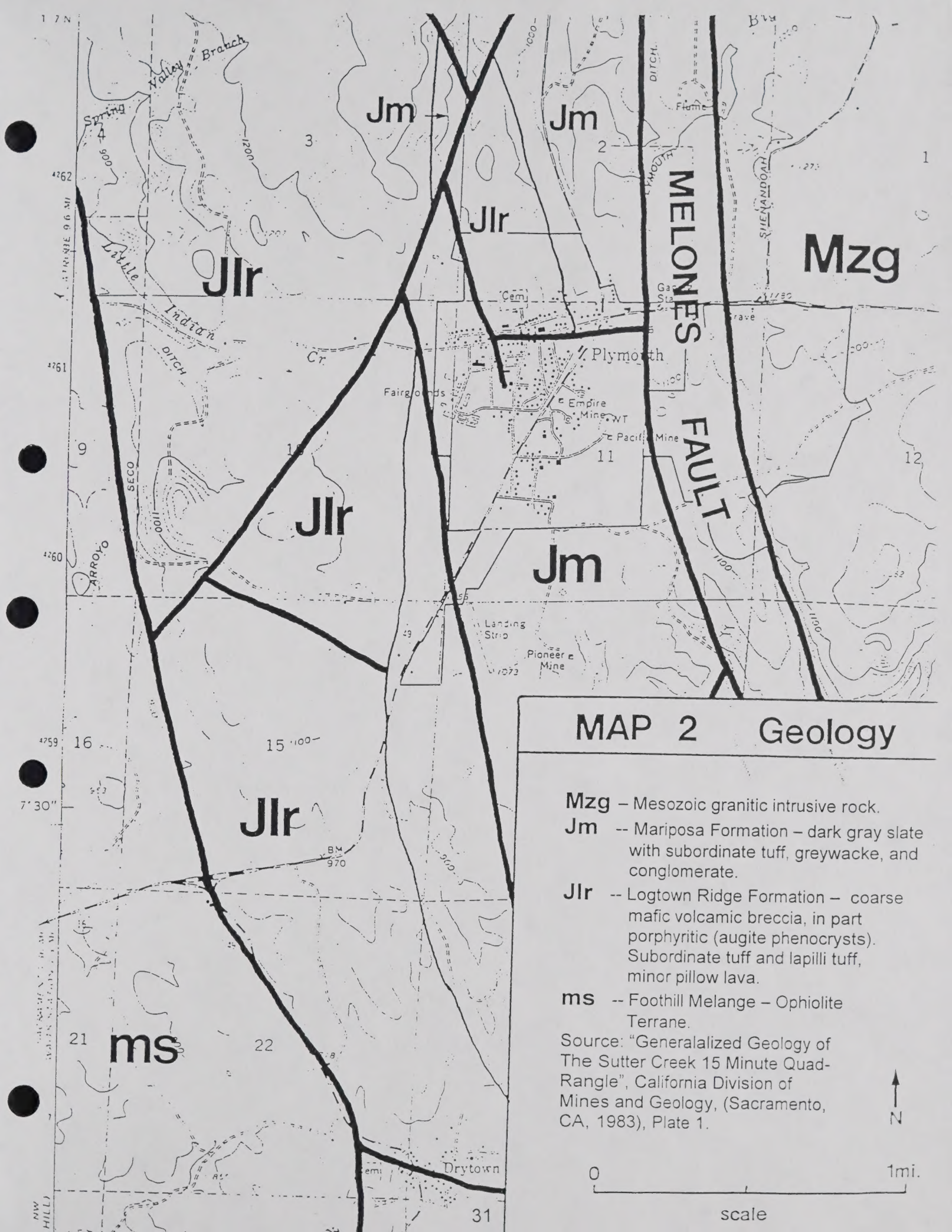
The Melones Fault which runs north and south adjacent to the eastern part of Plymouth is a part of one of the most famous gold bearing regions of the world, the "Mother Lode."[2]

The Nevadan Orogeny, this early period of mountain building that began with the intrusion of molten magma into the earth's crust, took place over 100 million years ago when the area that is now Plymouth was beneath approximately two miles of the earth's outer crust. Since that time the outer crust has eroded away and been covered by volcanic tuff, lava and mud flows. These layers have since been eroded and reshaped again and again. The uplift and exposure of the Sierra Nevada that we know today did not occur until relatively recent geologic times, within the last few million years.[3]

Mineral resources, particularly gold, have played an important role in the history of Plymouth. While presently this resource is hardly a part of the local economy, it is possible that gold prices could one day increase to the point that it would be economic to once again mine for gold in the Plymouth area.

The California Division of Mines and Geology on August 1, 1984, presented to the City of Plymouth the *Mineral Land Classification of the Sutter Creek 15' Quadrangle.* The document is hereby incorporated by reference and is made available for public review at Plymouth City Hall. Within the document Plymouth is shown to have "known mineral deposits where well-developed lines of reasoning, based upon economic geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high". The text goes on to clarify that these deposits are either "inferred reserves or presently sub economic as determined by limited sample analysis, exposure and mining history."[4]

Mines in the Plymouth area that are specified as having inferred or sub economic mineral reserves include the Plymouth Consolidated, the Wheeler, the New London and the Pioneer. The Division of Mines document also indicates that the area adjacent to Indian Creek north from the intersection of Main Street and Highway 49 may contain "undiscovered placer mineral deposits similar to known placer deposits in the same producing district.[5] In addition to gold, the document suggests that quartz may be another valuable mineral in the area.



MAP 2 Geology

Mzg – Mesozoic granitic intrusive rock.

Jm -- Mariposa Formation – dark gray slate with subordinate tuff, greywacke, and conglomerate.

Jlr -- Logtown Ridge Formation – coarse mafic volcamic breccia, in part porphyritic (augite phenocrysts). Subordinate tuff and lapilli tuff, minor pillow lava.

ms -- Foothill Melange – Ophiolite Terrane.

Source: "Generalalized Geology of The Sutter Creek 15 Minute Quad-Rangle", California Division of Mines and Geology, (Sacramento, CA, 1983), Plate 1.

3.4 Soils

Most of Plymouth is built on Exchequer and Auburn loams (Ehd, Arc; see Map #3). "They are comparatively free of rock outcrops. The Exchequer loam is somewhat excessively drained, and the Auburn loam is well drained ... some gently sloping areas on flats near Plymouth are slightly mottled, as the result of seasonal wetness, and have a subsoil of clay or clay loam ..."

"These soils are used mostly for grazing. Some gently sloping areas are used for dry-farmed hay and grain or improved pasture ... hay and grain crops and forage plants respond if fertilizer that contains nitrogen and phosphate is applied."[6]

Auburn and Exchequer soils are each rated as having severe limitations for septic tank filter fields. They exhibit a variable seepage rate depending on the degree of shattering in the parent material. They are susceptible to settlement cracking and they have below average infiltration rates when thoroughly wetted as after prolonged rain.[7]

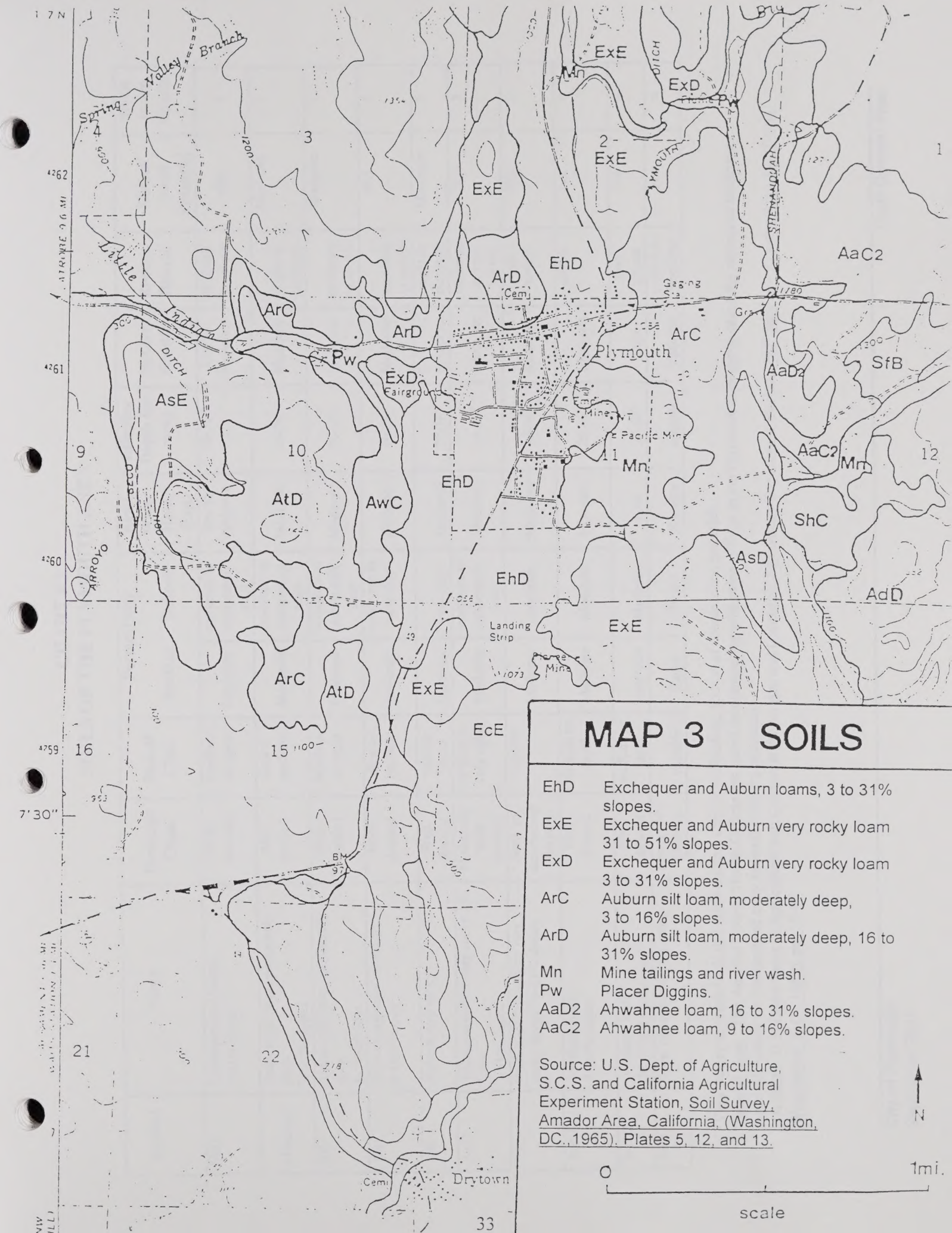
Areas north and east of Plymouth, contain areas in which Awahnee loams are prevalent (AaC2, AaD2; see Map #3). Awahnee loams are formed from weathered granite rock. Surface soil is very thin or completely eroded. Root penetration is moderately deep. Runoff is medium to rapid and erosion hazard is moderate to severe. These areas should be grazed lightly and, if cultivated, erosion control is necessary.[8] Awahnee soils have moderate limitations for septic tank filter fields. They have a high seepage rate and the underlying granitic bedrock is weathered, fractured, fairly porous and therefore capable of transmitting water (and sewage) a fair distance.[9]

Most of the Auburn, Exchequer, and Awahnee soils of the project area have an American Association of State Highway Officials (AASHO) engineering classification of A-4. This means the soils fall midway within a rating system where A-I consists of gravelly soils of high bearing capacity, and A-7 which consists of clayey soils having low strength when wet.[10] The other soils types found in the project area are mine tailings and riverwash (Mn, Pw).

Additional details for each soil type and sub-classification is provided on the soils chart (see Chart #2). The location of the soils listed on the chart are shown on the soils map (see Map #3).

3.5 Surface Water

The Plymouth area lies within the Sacramento-San Joaquin drainage basin. The Plymouth area is drained by several small tributaries to Little Indian Creek. Little Indian Creek flows westerly from Plymouth for approximately twelve miles where it joins the Cosumnes River. Little Indian Creek and its tributaries are intermittent streams meaning



MAP 3 SOILS

EhD	Exchequer and Auburn loams, 3 to 31% slopes.
ExE	Exchequer and Auburn very rocky loam 31 to 51% slopes.
ExD	Exchequer and Auburn very rocky loam 3 to 31% slopes.
ArC	Auburn silt loam, moderately deep, 3 to 16% slopes.
ArD	Auburn silt loam, moderately deep, 16 to 31% slopes.
Mn	Mine tailings and river wash.
Pw	Placer Diggins.
AaD2	Ahwahnee loam, 16 to 31% slopes.
AaC2	Ahwahnee loam, 9 to 16% slopes.

Source: U.S. Dept. of Agriculture, S.C.S. and California Agricultural Experiment Station, Soil Survey, Amador Area, California, (Washington, DC., 1965). Plates 5, 12, and 13.

CHART # 2
SOILS OF THE PLYMOUTH AREA

Symbol	Name	Drainage Class	Runoff Class	Permeability		Avail. Water Hold. Cap.	Effective Depth for roots	Natural Fertility	Erosion Hazard	Shrink Swell Potential	Storie Index Grade
				Surface	Subsoil						
EhD	Exchequer and loams 3-31% slopes	Well drained	Medium to rapid	Moderate	moderate to moderately slow	low to moderate	10-36"	Low to Moderate	moderate to severe	N/A	4
Moderate	Auburn silt loam, moderately deep 3-16 % slopes	Well drained	slow to medium	Moderate	moderate to moderately slow	Moderate	20-36"	Moderate	slight to moderate	Moderate	3
ArD	Auburn silt loam, moderately deep 3-31% slopes	Well drained	Medium to rapid	Moderate	moderate to moderately slow	Moderate	20-36"	Moderate	moderate to severe	Moderate	3
AwC	Auburn-argonaut silt loams 0-16% slopes	Well drained	slow to medium	Moderate	moderate to very slow	Moderate	10-36"	Moderate	moderate to severe	N/A	4
AfD	Auburn very rocky	Well drained	slow to rapid	Moderate	very slow	Moderate	20-36"	Moderate	slight to moderate	Moderate	5
AxD	Auburn-argonaut very rocky silt loam 3-31% slopes	Moderately Well drained	medium to very rapid	Moderate	moderate to moderately slow	Moderate	10-36"	Moderate	moderate to very severe	N/A	5
ExE	Exchequer and auburn very rocky laoms 31-51% slopes	Well to excessively drained	variable	Moderate	Moderate	Moderate	10-36"	Moderate	very severe	N/A	6
AaC2	Awahnee loam 9-16 % slopes	Well drained	medium to rapid	Moderate	Moderate	Moderate	20-60"	Moderate	severe	low	3
AaD2	Awahnee loam 16-31% slopes eroded	Well drained	medium to rapid	Moderate	Moderate	Low	20-60"	Low	very severe	low	4
Mn*	Mine tailings and river wash	Excessively Drained	variable	Rapid	Rapid	Variable	variable	Variable	subject to flooding	low	6

*Very stoney in creek beds and mine dumps, subject to flooding, source of construction materials

*Special note: The Amador County Health Officer has noted that tampering with mine tailings in the Plymouth area could cause the release of hazardous chemicals which are remnants of early mineral leaching processes.

SOURCE: U.S. Department of Agriculture Soil Conservation Service and California Agriculture Experiment Station, Soil Survey – Amador Area, California (Washington D.C., 1965), pp. 50-85

they carry water produced from seasonal rainfall and tend to dry up in late summer months.

Beneficial uses of Little Indian Creek downstream from the City are the same as those for the Cosumnes River:

- Domestic and agricultural water supply
- Recreation
- Aesthetic enjoyment
- Preservation and enhancement of fish, wildlife and other aquatic environments.

The Central Valley Regional Water Quality Control Board is charged with enforcing water quality standards in the area. They will monitor development projects through the environmental review process and they can require restrictions of existing or proposed facilities to control discharge into surface waters to preserve water quality.

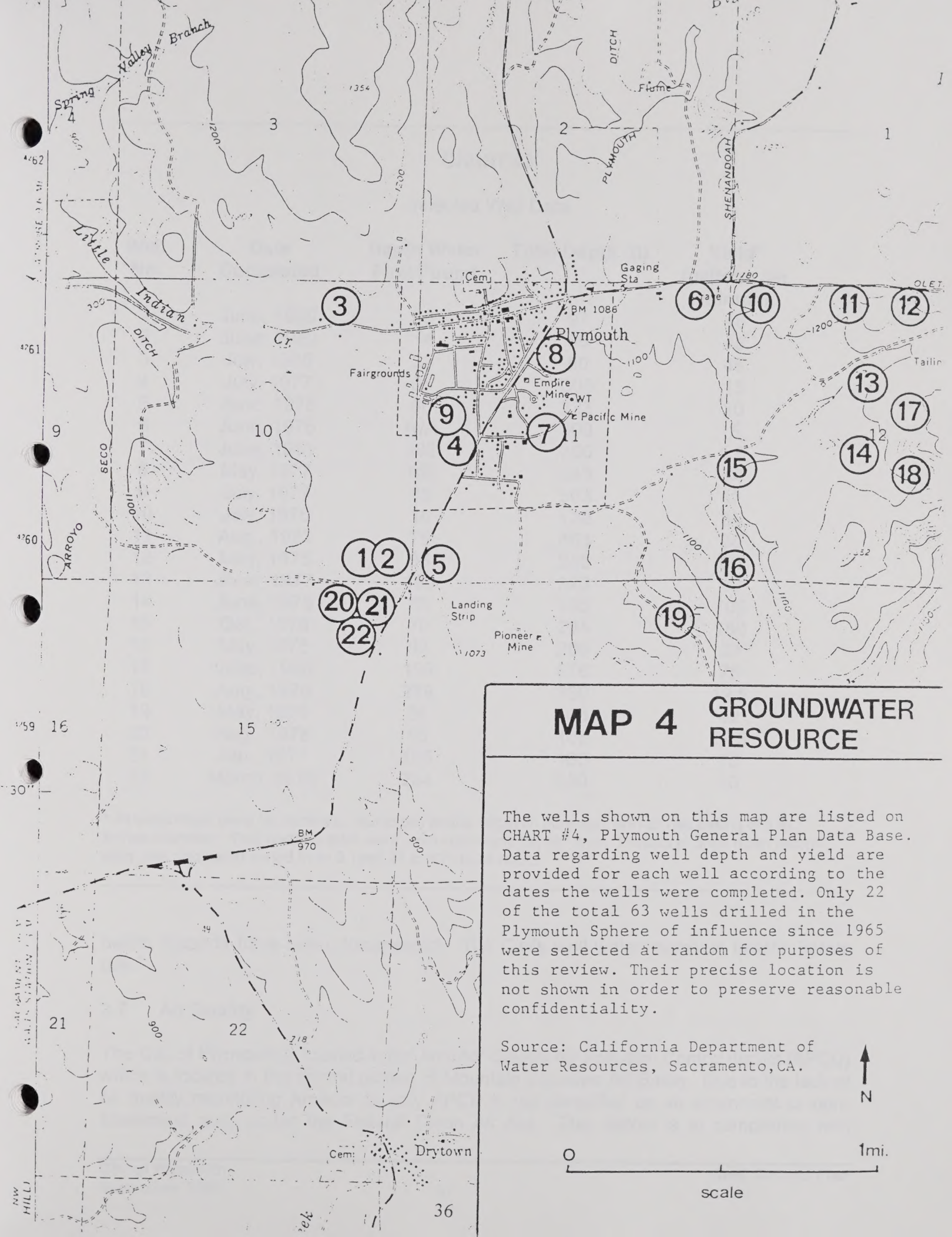
The City of Plymouth derives a portion of its water needs from the Arroyo Ditch. The Arroyo Ditch originates from the Middle Fork of the Cosumnes River and runs approximately 17 miles to the City of Plymouth. "Water was first diverted in 1851. It was owned and operated by a series of private owners until December 1962."[11] In 1962 the Amador County Water Agency gained control of the ditch. In the 1980's, Plymouth acquired the Arroyo Ditch and it is a part of the City's water supply, it is discussed further in Section 2.13, Public Services and Facilities. It is noted that Little Indian Creek serves as party of the distribution system for the Arroyo Ditch.

3.6 Groundwater

Map #4 shows the approximate locations of 22 wells located in the Plymouth area (see Map #4). Chart #3 provides information about depths and rates of flow reported for each well at the time it was drilled (see Chart #3). Collectively, well information usually provides insight to an area's ground water resources. An analysis of the well data map and chart, however, reveals very few trends. Even wells that are near to each other show very different water depth and yield information. A.J. Harris (a well driller with experience in Plymouth) has commented that this is typical in areas underlain by impervious rock material. Unless a driller reaches a water bearing fracture in the rock, drill will have to be deep and adequate yields may still not be reached.

The unique geology of the Plymouth area does create at least one special ground water feature. Wells numbered 14 and 15 on Map #4 show unusually high yields. Other wells in the same area show similar high yields. The reason for this anomaly may be that a greenstone dike associated with the Melones Fault serves as an underground dam trapping water in the fractured granite that underlies this particular area.[12]

The quality of groundwater resources in Plymouth is generally fair to excellent. No serious



MAP 4 GROUNDWATER RESOURCE

The wells shown on this map are listed on CHART #4, Plymouth General Plan Data Base. Data regarding well depth and yield are provided for each well according to the dates the wells were completed. Only 22 of the total 63 wells drilled in the Plymouth Sphere of influence since 1965 were selected at random for purposes of this review. Their precise location is not shown in order to preserve reasonable confidentiality.

Source: California Department of Water Resources, Sacramento, CA.

N

0 1mi.

scale

CHART #3

Selected Well Data

Well No.	Date Completed	Depth Water First Found	Total Depth (ft)	Yield* (gallons per minute)
1	June, 1969	45	97	48
2	June, 1969	14	96	48
3	July, 1965	32	80	45
4	July, 1977	65	305	15
5	June, 1978	60	223	20
6	June, 1976	N/A	300	.5
7	June, 1981	192	300	1.5
8	May. 1977	155	243	60
9	July, 1977	35	503	12
10	July, 1976	16	120	80
11	Aug., 1983	75	463	30
12	May, 1975	95	285	60
13	June, 1977	190	323	12
14	June, 1979	83	185	100
15	Oct., 1978	70	284	150
16	May, 1975	92	206	33
17	June, 1980	126	576	75
18	Aug., 1978	279	360	12.5
19	May, 1975	35	106	42
20	Aug., 1978	56	108	37.5
21	Jan., 1977	135	163	10
22	March, 1976	284	330	10

* All wells listed were for domestic, municipal, and/or irrigation purposes and all had casing of 4 to 7 inches diameter. Well quantity tests were most commonly "rig air" type. Periods of draw down before yield was calculated varied from 0, (well #1 to #3), to 24 hours

health hazards have been documented. The City's well water supply is treated before use.

3.7 Air Quality

The City of Plymouth is located in the Amador County Air Pollution Control district (APCD) which is located in the central portion of Mountain Counties Air Basin. Due to the lack of air quality monitoring Amador County APCD is not classified as an attainment or non-attainment area under the Federal Clean Air Act. The district is in compliance with

Federal air quality standards with the exception of ozone. The County has been designated as a non-attainment area for ozone precursor emissions. Subsequent research has demonstrated that the violations were largely due to the transport of pollutants from valley metropolitan centers.

The Amador County APCD is responsible for enforcing emission standards upon industrial operations in the Plymouth area. At the present time the District has issued no permits in the area and is not aware of any existing or planned industrial air pollution sources.[13] Under Federal law, any industrial activity intending to locate in or near the City would have to prove that the air pollution they might generate would not exceed existing standards.

Existing, non-industrial emission sources identified in the Plymouth area include fireplaces and woodstoves, vehicular traffic, household heating, dust from construction, roads or natural sources, and the burning of trash or garden refuse. The city requires burn permits for those desiring to burn wood based (paper) trash or garden refuse.

3.8 Vegetation

Plymouth is located in a plant environment often referred to as the Foothill Belt or Upper Sonoran Zone. It is a region that runs north and south along the foothills of the Sierra Nevada that is typified by digger pine (bull pine)) interior live oak, blue oak, and various types of chaparral (manzanita, ceanothus, scrub oak, etc.). Vegetation common to the Great Central Valley or Lower Sonoran Zone such as grasslands, cotton wood, willow and valley oak are also present.[14]

Several major plant communities (habitat types) are represented in the central Motherlode region of the Sierra Nevada foothills, within which the City is located. These communities, classified by their predominant vegetation, include blue oak-digger pine, valley oak woodland, valley foothill riparian, and aquatic environments. Except for the aquatic habitat, these plant communities occur in a mosaic nature. Often there are no clear delineations between one community and the next. The following is a description of these habitat types.

- *Blue Oak-Digger Pine.* The blue oak-digger pine habitat is a diverse mix of hardwoods, conifers, and shrubs that are interspersed with some grassland areas. This habitat is found at the lower to middle elevations in the project area. The trees and shrubs associated with this habitat include interior live oak, California buckeye, *Ceanothus*, manzanita, and poison oak.

- *Valley Oak Woodland.* This habitat varies from savanna with scattered trees in a grassland setting, to more forest-like dense tree stands with overlapping canopies. The valley oak is the dominant tree species in this habitat type, but other tree associates include live oak and blue oak. Walnut and box elder occur along natural drainages. Shrub species include toyon, poison oak, blackberry. coffeeberry, and wild grape. The grassland areas are composed of a variety of

wild oats, brome, barley, ryegrass, and needlegrass.

- *Valley Foothill Riparian.* Found primarily along the stream corridors of Jackson Creek and its tributaries, this habitat includes white alder, valley oak, willows, and blackberries. This riparian zone is fairly well established along the eastern side of both SR 88 and Irishtown Road.

- *Aquatic.* The creeks, tributaries, and drainages comprise the aquatic habitat occurring in the project area. The aquatic environment consists of these streams, the streambed (rocks, gravels, sands, etc.) and the aquatic vegetation (algae, mosses, grasses, etc.) found in the stream courses. These streams support populations of invertebrates as well as a variety of fish.

Humans have had a tremendous effect on the natural plant environment in and around Plymouth. Mine tailings dominate much of the landscape especially in the southeastern area of the City (see Map #2). These tailings may take many more decades to become naturally revegetated. Early day miners and settlers also began cutting trees for mine timbers, building construction, fuel wood and to clear range land. It is believed the original cover of oaks in the foothills was far greater and more extensive than it is today.[15] Domestic and other non-native plants have taken the place of most natural vegetation in developed portions of the city.

3.9 Wildlife

Wildlife is generally linked to natural vegetation because it provides the habitat which most wild animals require to survive. Effects on a natural habitat will usually have a direct affect on the wildlife that utilizes the habitat.

Wildlife habitats that exist in the Plymouth sphere of influence include chaparral, pine oak woodland, valley grassland, riparian (creekside), woodland and assorted wetlands. Riparian and wetland environment are perhaps the most important habitat type. All animals in the natural food chain rely on riparian and wetland habitats directly or indirectly for food, water, nest or den sites, cover, transportation corridors or other purposes. A diverse group of wildlife species occur within the City, due primarily to the variety of habitat types which occur there. Many of the wildlife species found are year-round residents, while others are migratory. Examples of wildlife found in the area include:

Reptiles and amphibians. Garter snake, king snake, rattle snake, gopher snake, racers, western fence lizard, alligator lizard, western skink, slender salamander, arboreal salamander, western toad, California newt, and California tree frog.

Birds. Scrub jay, Stellar's jay, rufous-sided towhee, sparrows, vireos, warblers, wrens, bluebird, western tanager, varied thrush, white-breasted nuthatch, plain titmouse, acorn woodpecker, northern flicker, great horned owl, northern oriole, red-tailed hawk, American kestrel, wild turkey, and quail.

Mammals. Mule deer, jack rabbit, bobcat, red fox, grey fox, mountain lion, black bear, deer mouse, California vole, Botta's pocket gopher, ground squirrel, western grey squirrel, striped skunk, raccoon, opossum, and porcupine.

Special status species are those plants and animal listed as rare, threatened, or endangered by the state or federal governments, species designated as candidates for inclusion in those listings, and species categorized as California Species of Special Concern.[16] Two listed species occur in Amador County, and potentially within the City limits:

Red-Legged Frog	*Rana aurora draytonii*
Tricolored Blackbird	*Agelaius tricolor*
Prairie Wedgegrass	*Sphenopholis obtusata*

It is a common misconception that removal of natural habitat simply results in the displacement of wildlife to other areas. In actuality, other places will already contain maximum populations of most native species. Displacement therefore usually means direct reduction in animal numbers.

Even with protection of natural habitats, urban development can cause reduction or elimination of wildlife species by introducing or increasing the number of animals such as dogs, cats, rats, mice, and birds which compete with or otherwise harm native wildlife.

Some animal species, such as raccoons, mice, and gray squirrels, are known to increase with urban development in some cases. Similarly, agricultural activities may support increases in certain rodent, bird, and insect species.

3.10 Archaeology/History

Little is known about the early archaeology of Amador County, but evidence from the Coast Ranges and Shasta has shown that human habitation of the region may have begun 10,000 to 12,000 years ago. While sites may have been covered by alluvial deposits over the years, development of various land uses increases the likelihood that resources could be exposed during earth moving activities. More near-surface sites also have a higher likelihood of being disturbed or destroyed by natural or human action.

The most recent Native American inhabitants were of the Miwok group. The Miwoks were divided into territorial groups known as triblets or village communities. Their major villages were located on ridges above rivers, ridgetop flats, and midslope terraces. The Miwok followed a seasonal pattern of gathering and hunting away from their main winter residences. Acorns, fish, and game were the dietary staples for the group. Nuts, berries, roots, and tubers supplemented this diet. Planned seasonal foraging and hunting coincided with the productivity of the plant and animal resources.

The arrival of gold prospectors in 1849, the influx of immigrants, and the introduction of diseases nearly destroyed the Miwok populations. In their search for minerals, the miners

penetrated most corners of the Miwok lands, displacing nearly all of the Indian population.

Three sites containing important Indian artifacts have been located and recorded within the Plymouth sphere of influence. Their exact location is not disclosed so that they may remain protected from possible theft or vandalization. At present, less than one fourth of the sphere of influence has been inspected for archaeological sites. The North Central Information Center at Sacramento State University is responsible for assisting localities with location and protection of both historic and prehistoric cultural resources. The Information Center has commented that "...based upon the above information, the local topography and our knowledge of similar areas the sensitivity for both historic and prehistoric cultural resources in this vicinity is very high ... archeological surveys are recommended for all previously unsurveyed areas and some additional work is recommended for the purpose of recording resources which were not formally recorded during the 1977 study."[17]

The North Central Information Center recommends investigation of some areas already containing development as well as all previously undeveloped areas. They have proposed several means to protect resources when they are discovered:

> In addition to preservation, which is ideal both from an economic and scientific vantage, there is the option of excavation or other types of detailed investigation. Excavation is of course applicable only to sites with a subsurface deposit and is always very expensive and time consuming. Even small test excavations can run several thousand dollars. Full scale mitigation efforts are usually only affordable by major government agencies or in connection with large budget projects. Many types of sites, especially historic ones, are not treated in this fashion. In many cases detailed mapping and recording are sufficient mitigation. This also applies to a certain class of prehistoric sites such as those with bedrock mortars only. Sometimes historic buildings or artifacts are moved and reassembled in another location such as a park or museum and in this way much of the value is preserved.

The discovery of gold in 1848 attracted thousands of miners to the Motherlode. Camps and towns were built in the areas of successful prospects, most of them died out as rapidly as they were created. Most prospecting and mining activities began in the river bars and gravels, and proceeded to streamside terraces, and then hillsides and ridges. In some cases, the camp names remain today as geographic locations. Jackson and Plymouth became mining centers with gold operations at the Empire and Pacific Mines in Plymouth.

The Plymouth area was first settled by caucasians in the early 1850s when a gold miner's camp, called either Pokerville or Puckerville was established at the lower end of the flat on which Plymouth is now located.

The Empire Mine and Pacific Mine began as a number of claims that were staked out in 1852 in what is today southeast Plymouth. In 1871, an outcrop of the Empire shoot, a gold bearing formation, was discovered and excavation for the mine began. By 1879, the mine had reached a depth of 1,100 feet and was operating 80 stamps, processing about 160 tons of rock per day. Work commenced on the Pacific mine in 1880 and the main shaft reached 1,000 feet later that year. Both of these claims were worked separately until 1885 when they were united to form the Plymouth Consolidated Mine Company.

Limited. The mine was flooded in 1888 in order to extinguish a severe fire at the 1,200 foot level. Both the shafts were reopened in 1889 but operations were idled soon after due to economics and manpower shortages. The mine was reopened again in 1912 and was sold to Argonaut Mine (located in Jackson) in 1925. During the next 20 years, mining activity was sporadic and the primary operations centered on gold extraction from treated mine tailings. Mine operations ceased again in 1947. In the 1960s, the mine dumps were worked for silica which was sold to the Johns-Manville pipe plant in Stockton.

Both the Empire and the Pacific mines were deep, hard rock mines. The Pacific Mine was ultimately sunk to 4,450 feet. The shallowest mining depths referenced were horizontal "drifts" at 400 to 500 feet deep. A description of the Pacific Mine shaft was "vertical to 1,520 feet, then 60 degrees to 4,450 feet" (Clark, 1952). It is probable that the Empire Mine shared the same construction technique.

Once the ore was extracted and sent to the surface, it was conveyed to the stamp mills, then to cone separators, and then to the ball mills. These processes reduce the rock to small aggregate. A gold/mercury amalgamation was formed when quicksilver was added to the mixture. A tailings dam was built to contain the processing refuse. In 1939, Argonaut constructed a floatation/cyanide plant at the site to treat ore tailings (approximately 900,000 tons) that were milled previous to 1925. Until 1943, the processing plant operated at 500 tons per day. Over 750,000 tons of tailings were treated using the cyanide leaching process.

There is only one California State Historical Landmark in Plymouth; the Plymouth Trading Post (Landmark #470), also known as Levaggi's Store. This brick building located on the south side of Main Street between the old Roos Building and the bank was constructed in 1857 and served at one time as the office and commissary of the Plymouth Consolidated Mining Company. This and other local historic sites are listed and shown on Map #5 (see Map #5).

The Chinese Store located at 9150 Main Street was built around 1880. A plaque on the front of the store reads, "Chinese Store - It is said "Old Ming" a Chinese, built this store about the time Pokerville became Plymouth in the late 1870's."

CITY OF PLYMOUTH

MAP 5 HISTORIC RESOURCES

1. --AMADOR COUNTY FAIR GROUNDS--The first fair was held in tents here in 1938.
2. --PLYMOUTH ELEMENTARY SCHOOL-- Former site of Mr. Ming's truck garden, 1880's.
3. --OLD CHINA STORE-- Built circa 1880.
4. --ODDFELLOWS HALL--Built in 1877.
5. --MASONIC TEMPLE-- Originally the Methodist Church.
6. --CAUCASIAN HALL-- (Private residence) In 1872, the Plymouth Hook and Ladder Co. held its first annual ball here.
7. --ST. MARY'S OF THE MOUNTAINS CATHOLIC CHURCH-- The original building was replaced by present building in 1939.
8. --PLYMOUTH HOTEL-- Former site of Harvey House. Present building constructed in 1929.
9. --NATIVE SONS HALL-- Former recreation hall of Plymouth Mine.
10. --CITY PARK-- Former location of Plymouth Hotel.
11. --EMPIRE STORE-- (Levaggi's Store)
12. --ROOS BUILDING-- Formerly Rosenwald and Kahn, General Merchandise.
13. -- POST OFFICE-- Former site of Easton's Forront House.

SOURCE: Amador Visitor's Guide #2, "Plymouth Walking Tour".

Much of Plymouth's unique history remains to be uncovered and recorded. The Plymouth Oral History project is one effort that has begun which involves taping interviews with people who know or remember historical places, people, or events in or near Plymouth.

The tapes and transcripts of these interviews are part of the collection of written materials, photographs and other memorabilia that is maintained at the Plymouth branch library. This project is administered by a designated city historian. The City Historian is also involved in locating and helping to preserve local historic sites and in working with organizations like the Chamber of Commerce to cultivate public interest in the area's history.

3.11 Land Use and Growth

3.11a Background Data

Early voting records indicate the slow steady growth Plymouth experienced after it was established one century ago: 175 voters in 1873, 275 voters in 1877, and over 300 voters in 1880. Women did not have the right to vote at that time.[17] 1873 – 175 votes, 1877 – 275 votes, and in 1880 – over 300 votes (in those days women were not allowed to vote).

In 1960 the City's Census population was 489. By 1980 it had increased to 699 (275 households) and to 811 (328 households) by 1990. Most growth occurred in the decade of the 1970s when many rural communities in the State and Country experienced an in-migration of residents commonly moving from more urbanized areas.

3.11b Census Characteristics

According to the 1990 Census, the City of Plymouth grew 14 percent from 699 persons in 1980 to 811 in 1990, or at an average rate of 1.38 percent per year. There were 359 housing units. The number of households increased 19 percent from 275 in 1980 to 328 in 1990. The number of persons per household decreased from 2.54 to 2.47.

The median household income for Amador County was estimated to be $27,737 in 1991. This is 23 percent less than the estimated State median household income of $36,172 for the same year.

The Housing Element contains additional information on population, household, and economic characteristics of Plymouth residents.

3.11c Existing Conditions

In conjunction with the update of the Circulation Element, four primary sources of land use data were used to develop existing condition information (base year 1990) for update of the General Plan land use data base:

1. Census data was collected from the California Department of Finance to

determine the number of single and multi-family residences by census tract and block. A table showing general characteristics of the 1990 population and other population information is provided in the City's "Housing Element" .[18]

2. The Amador County Assessor's Office provided data for non-residential uses including commercial and industrial facilities, institutional facilities and schools. Data was provided in terms of square footage of buildings located on each occupied parcel.

3. The Amador County Department of Parks and Recreation provided data on the parks located in Plymouth.

4. The Amador County Unified School District provided 1990 school enrollment data for each school facility in the City.

Map #6 presents the general locations and types of existing land uses within the City of Plymouth (see Map #6). As the map shows, the primary land uses within the City are residential. The City of Plymouth had only 2 percent of the County's single-family housing units and just below six percent of the County's multi-family housing units in 1990.

The City's total residential units are composed of 62 percent single-family and 38 percent multi-family. A total of 91 percent of all units are occupied year-round, with 2.7 percent vacant due to seasonal and recreational use.

As shown in Map #6, the commercial land uses are concentrated primarily along the SR 49 and Main Street corridors. Existing office uses are distributed throughout the City, including locations on Main Street, Landrum Street, Locust Street, and Poplar Street. At the eastern terminus of Atlantic Street and Bush Street are industrial uses including mining facilities. The public uses shown on the map include the City offices, post office, library, youth center, fire department, cemeteries, and the fairground facilities.

Of the County total, almost 20 percent of the park acreage is within Plymouth, due primarily to the location of the fairgrounds. The City includes 2 percent or less of the County's office, industrial, and institutional uses.

The following conclusions were drawn from socioeconomic data for the city.

- In 1990, the City had a population of 841, comprising less than 3 percent of the County's population.

- Of all Plymouth residents age 16 and over, 63 percent are in the work force. This is slightly below the statewide average of 67 percent.

- Of the five incorporated cities in Amador County, Plymouth has the highest rate of unemployment, at 11.2 percent. This is significantly higher than the statewide average of 5.6 percent.

- Approximately 17 percent of the City's population is 65 years or older.

- The average number of persons per household is 2.47. This is slightly higher than the countywide average of 2.41, and significantly lower than the statewide average of 2.80.

- The number of vehicles per household in the City is 1.93, which is slightly higher than the statewide average of 1.78.

3.11c Projected Growth

Based on Department of Finance data (*Official Population Projections Report 93 P-1*, 1993) projections of population growth for all counties within California were made. The following provides historic and projected countywide population growth for particular time periods from 1980 through 2020:

- From 1980 to 1990 — 4.5 percent per year
- From 1990 to 1993 — 2.9 percent per year to 32,700 persons
- From 1993 to 2004 — 3.9 percent per year to 47,940 persons
- From 2004 to 2014 — 2.6 percent per year to 61,860 persons
- From 1993 to 2020 — 2.9 percent per year to 70,500 persons

The following summarizes the actual data used for allocation of future projected land development throughout the entire County (including the cities) for the 10-year periods from 1994 to 2004, and from 2004 to 2014:

Growth Projections -- Amador County

Land Use Type	10-Year Growth (2004) Projection	20-Year Growth (2014) Projection
Single Family	4,858 units	3,739 units
Multi-Family	994 units	727 units
Retail Commercial	792,000 sq. ft.	590,000 sq. ft.
Industrial	316,000 sq. ft.	458,000 sq. ft.
Office Commercial	265,000 sq. ft.	203,000 sq. ft.
Institutional	1,015,000 sq. ft.	55,000 sq. ft.
Parks/Open Space	43.0 acres	40.0 acres

Source: *City of Plymouth Circulation Study, Working Paper 4, Deficiencies and Improvement Options*, Fehr & Peers Associates, June 8, 1994.

The above allocation represents a growth rate of 3.16 percent per year, which equates to the addition of approximately 1,240 persons per year to Amador County (assuming an average of 2.4 persons per household). Overall, this allocation was determined to be somewhat less (15 percent less) than the Department of Finance data, based on adjustments for topographic and infrastructure factors. The growth assumptions also assume a greater portion of the growth will occur in the cities as opposed to within the unincorporated area of the County.

The allocation of population growth by city was made as follows:

Jurisdiction	1994*	2004	2014
Amador City	210	270	350
Ione	2,718	6,200	6,400
Jackson	3,868	5,930	7,780
Plymouth	844	1,280	1,680
Sutter Creek	2,015	2,930	4,080
Unincorporated	19,022	26,110	33,140
TOTAL	**28,677**	**42,720**	**53,430**

* Does not include State mental health institutions or prisons.
Source: January 1, 1994 Department of Finance

Because the Department of Finance information is only available on a countywide (not citywide) level, growth rates were developed for Plymouth based on the projected growth rates for Amador County. The following growth rates were calculated based on this data:

- Historic growth rate of 2.9 percent per year from 1990 to 1993 to 870 persons.
- Projected growth rate of 3.9 per year for the 10-year time horizon (1993 to 2004) to 1,275 persons.
- Projected growth rate of 2.6 percent per year for the 10- to 20-year time horizon (2004 to 2014) to 1,650 persons.
- Overall projected growth rate of 2.9 percent per year from 1993 through 2020 to 1,880 persons.

The following projections result from applying the growth rates given above to the base land use data presented earlier. It should be noted that the 1990 Census land use data was increased by 2.9 percent per year (population growth rate) to bring it up to the 1994 base year. The data was then adjusted by the City Planner to redistribute more space from retail square footage to office uses (approximately 1/3 of the original total). Industrial uses were also increased overall.

The following chart (adjusted) represents the additional development anticipated for the 10-year periods between 1993 to 2004 and 2004 to 2014. This data was the basis of the update of both the Circulation and Housing Elements.

Growth Projections -- Plymouth

Land Use Type	10-Year Growth (2004) Projection	20-Year Growth (2014) Projection
Single Family	112 units	103 units
Multi-Family	70 units	63 units
Retail Commercial	48,590 sq. ft.	47,660 sq. ft.
Industrial	25,000 sq. ft.	25,000 sq. ft.
Office Commercial	24,260 sq. ft.	23,840 sq. ft.
Institutional	2,900 sq. ft.	2,700 sq. ft.
Parks/Open Space	16.0 acres	14.0 acres

Source: *City of Plymouth Circulation Study, Working Paper 2, Growth Projections and Buildout Assumptions*, Fehr & Peers Associates, March 29, 1994.

Using the growth projections provided above, the City of Plymouth will have an estimated holding capacity of 1,088 dwelling units (896 single family units and 192 multi-family units), equating to a population of approximately 2,610 persons at build-out. Non-residential build-out is projected to be comprised of the following:

- Retail Commercial -- 284,000 square feet
- Office Commercial -- 142,000 square feet
- Industrial -- 588,000 square feet

3.12 Economy

At the time of this update, 2000 census data was not yet available. This section will be updated at a later time.

The 1990 Census indicates that in 1989 per capita income in the City of Plymouth was $11,930 compared to $14,282 for Amador County and $16,409 for the State. Median family income was $33,036 in the City compared to $35,062 for County and $40,559 for State. Median household income was $27,054 (City) compared to $30,265 (County) and $35,798 (State).

The Census indicates that in 1990 the City's labor force included 385 persons, 340 of whom were employed at the time the Census was conducted (April). The County's average unemployment rate in 1990 was 5.6 percent. The State's average unemployment rate in 1990 was also 5.6 percent.[19] (Information is not available on the City's average unemployment rate during the same period.)

According to the 1990 Census, in April 1990 43.6 percent of the City's employed worked in the retail trade and durable goods manufacturing industries. Approximately 31.2 percent reported that they traveled to work outside of Amador County. Approximately 67 percent were wage and salary earners in the private sector, 17 percent were self-employed, and 21 percent worked in the government sector. Approximately 45.7 percent of the labor force were women of which 28 percent had children that were younger than 18 years of age.

Between 1990 and 1991 taxable sales increased in the City 8.9 percent (up $495,000). This is an increase from 1986 of approximately 92.6 percent. Taxable sales have grown 229 percent since 1980.

The number of businesses licensed and located in the City increased from 40 in 1984 to 45 in the fall of 1992. Chart #4 shows a listing of the businesses licensed and located in the City during the fall of 1992 (see Chart #4). It reflects the significance of small retail trade, manufacturing and service industries within the local economy.

Based on Economic Development Department data (1989 to 1996) the following historic and projected countywide economic data is provided for employment growth by industry:

- Total 1990 non-agricultural employment was 8,150 persons
- From 1990 to 1992 growth was 3 percent per year to 8,650 persons
- Total employment projected to grow by 3 percent per year
- Service oriented employment projected to grow by 5.5 percent per year
- Industrial employment projected to grow by 2.6 percent per year

- Wholesale and retail trade employment projected to grow by 2.8 percent per year
- Transportation and public utilities employment to grow by 3 percent per year
- Finance, insurance, real estate employment to grow by 2.6 percent per year
- Government employment projected to grow by 2 percent per year

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CHART #4

PLYMOUTH BUSINESS LICENSES
JULY 2000*

Type	No. of Licenses	No. of Employees
Retail Stores	15	68
Restaurants	5	31
Bars	1	3
Wholesalers/Mfgrs.	2	12
Contractors	3	3
Doctors	1	13
Dentists	1	14
Services	26	52
Totals	54	196

Average no. employees per business – 3.6

* Includes only businesses located and doing business within the City.
** Includes private schools, realty, lodging, beauty shops, garages, etc.

2.13 Public Services and Facilities

2.13a Water

The City currently provides 386 businesses, institutions and residents with domestic water supplies. This population required 9,276,973 gallons in July 2000 (highest usage month) and 2,785,649 gallons in February 2000 (lowest usage month). Based on these figures, the average water usage per connection varies between 336 and 763 gallons per day. The average daily usage per residential unit in the City is 1,099 cubic feet.

The City's water system currently relies on the Arroyo Ditch for water supply with wells as a backup.

As discussed in Section 2.5, the Arroyo Ditch was constructed in 1851. In 1982 and 1983 the City utilized $600,000 in Federal Community Development Block Grant funds to improve critically damaged sections of the ditch. In spite of this effort the ditch failed during the summer of 1984 because major portions of the ditch remain weakened or damaged. The engineering firm who designed the block grant funded improvements of 1982-83 estimated that adequate and permanent improvements to the entire ditch system could cost as much as $12 million.[20] This estimate was based upon construction bids received and engineering costs for 1982-83 project ($60/ft) and increases due to inaccessibility of major portions of the ditch.

In light of the unreliability of the Arroyo Ditch, State health officials and City staff have placed a heavy emphasis on the importance of maintaining our backup wells. Clean Water Grant funds have enabled installation of larger pumps and other improvements.

In 1987, the State Department of Health determined that the City was unable to adequately provide water to its residences with its existing water system and placed a moratorium on development in the City. In 1988, the City constructed a new well source to supplement its existing system. As a result, the moratorium was partially lifted in 1990 to allow the issuance of 50 more building permits after which time the system would be further evaluated. As of October, 2000, 16 of these permits have been issued. The Housing Element contains a policy that reserves the 34 available hook-ups for existing undeveloped lots or for developers intending to provide and maintain housing for low and very low income households.

It is the City's and State's policy that the Arroyo Ditch shall continue to be the source of the City's water supply. Ground water should only be used for backup or an interim water supply. To support this policy the City contributes annually to maintenance of the ditch. It has adopted Arroyo Ditch participation fees to be paid by all new development in the City and is pursuing a long-term plan for ditch maintenance and water storage.

The City has made it a priority effort and has expended considerable time and money working to secure a reservoir and related facilities to obtain additional surface water supplies from the Cosumnes River basin. A preliminary design and hydrologic study for the Plymouth Reservoir project has been completed. There are permits pending with the Department of Water Resources and Division of Dam Safety. Environmental review is underway and a grant/loan for reservoir construction from the Farmer's Home Administration is being actively pursued.

Other components of the City's water system include a treatment system, (low press. multi-media filter, and chlorination), a 1/2 million gallon storage tank, and gravity feed main lines, most of which were replaced in 1984. A new water filter system has been completed to replace the previous treatment system. The new system has a capacity of 648,000 gallons per day and meets existing City needs.

3.13b Sewage Disposal

Plymouth's sewage treatment system consists of three waste water storage evaporation reservoirs which are connected in series. The system was built in 1968 to accommodate a ten year build out. Prior to 1991 the total storage capacity of both reservoirs was approximately 39 acre feet. In 1991 a new storage facility was completed providing a capacity of 185 acre feet. The designed waste water retention time is 120 days.

The system's collection lines were designed and constructed in the late 1960s and early 1970s. They were laid out to accommodate the entire city by gravity feed. There is a pumping facility at the 49er Trailer Park and another pump which serves 8 homes on Highway 49. In 1973, the City added chlorination and a pump to the system to chlorinate and pump the City's treated waste water to adjacent farm land for irrigation.

Since 1977 the Central Valley Regional Water Quality Control Board has monitored evidence that sewage and partially treated sewage was escaping the controlled environment of the facilities. The Public Works Superintendent estimates that as of 1992 the facilities receive a summer minimum flow of 100,000 gallons per day and a winter flow of 150,000 to 200,000 gallons per day.

The Hawksview Development has recently been added to the system to serve the needs of the subdivision.

3.13c Storm Drainage

On March 17, 1883 the *Amador Dispatch* reported that "there is a strong effort being made to drain the town (Plymouth) of all surplus and stagnant water". Although certain facilities have been installed since that time, storm drainage continues to be a major need in the City today. In 1983 the City Engineer, at the request of the City Council, drew up preliminary estimates that showed adequate drainage facilities for the entire City would cost in excess of $600,000. In 1984. Plymouth was awarded a Small Cities Block Grant from which approximately $150,000 was used to resolve storm drainage problems in much of that portion of the City lying south and east of State Highway 49. Minor improvements continue to be made to the system as needed.

3.13d Solid Waste Disposal

Solid waste collection services are provided to Plymouth residents by the Amador Disposal Service, which is a subsidiary of Waste Connections, Inc. Waste that is collected by the franchise operator is separated at a material recovery facility (MRF) in Ione and then disposed of at the County owned Buena Vista landfill near Ione. Some residents do not utilize the collection service and transport their solid waste to the landfill directly. Amador Disposal Service also conducts an annual spring clean-up at no cost to the City, except tipping fees. Ten 20 yard dumpsters are provided for the annual event.

The Buena Vista landfill is 113.34 acres in size and it receives solid waste from the entire County. The landfill is divided into cells and the currently approved disposal cell has approximately two years capacity remaining. Amador Disposal is currently seeking a permit to expand operations at the landfill to provide five to eight years solid waste disposal capacity. It is expected that the expanded landfill permit will be approved in the next two to three months. The ultimate build-out capacity of the landfill will accommodate approximately fifteen years of County solid waste disposal.

Because, solid waste disposal is a serious statewide concern for the long term given the amounts of waste being generated, the cost of disposal and the availability of sites. State Assembly Bill 939 formed the California Integrated Waste Management Board, which in turn has required all cities and counties to divert 50 percent of their solid waste by the year 2000.

Amador County is currently tracked as a unit and individual areas and cities are not tracked separately. The County currently has met the 50 percent diversion goal. Landfill waste is diverted at the MRF near Ione. Amador Disposal Service has also been considering a "blue bag" program for recycling for Plymouth at no cost to the City. This "blue bag" recycling program would help to further divert solid waste from the landfill.

Plymouth, Amador County and the other cities in Amador County have formed the Amador County AB 939 Task Force. The Task Force contracted Wahler Associates of Walnut Creek, California, to prepare a report and plan titled *Source Reduction and Recycling Element, Household Hazardous Waste Element, Initial Study and Negative Declaration* (final draft, 1992). This is the plan that was used by all jurisdictions to achieve the required 50 percent goal.

According to the AB 939 elements, solid waste from Plymouth is estimated to be 6 percent of the County's total disposed waste (3,540 tons out of 59,000 tons per year).

The AB 939 Task Force elements contain a program to meet the required goal of 50 percent diversion with the following components: 4 percent of all disposed waste will be diverted from the landfill through source reduction, 36 percent through recycling, 7 percent through composting, and 3 percent through special waste management.
The major responsibilities assigned to the City within the plan are summarized as follows:

1. Educate and inform the public about source reductions, recycling, composting, and disposal of household hazardous waste.

2. Develop a source (each household) composting program for food and yard wastes by July 1992.

3. Implement ordinances before January 1996 that will impose requirements upon government, business and industry that will reduce the amount of solid waste being generated.

4. Implement curbside recycling.

5. Insure the City's zoning ordinance allows for recycling facilities in appropriate zones (not just industrial zones).

It should be noted the plan contains numerous other objectives to be implemented on a regional (countywide) level. Many of these, such as fee increases and dump load inspections, will affect citizens of Plymouth. Because the plan serves the County and the cities, many of the plan's objectives will, at some point, likely involve the City government in more ways than those listed above.

The AB 939 elements report that between 0.5 percent and 1.0 percent of the total waste received at the Buena Vista site is hazardous waste. This hazardous waste is separated at a designated recovery site near the dump's gate house. It is then removed to a Class I landfill or incinerator out of the County. A permanent household hazardous waste collection facility will be sited in the County.

3.13e Fire Protection

In February of 1999, the City of Plymouth entered into a contract with the Amador Fire Protection District (AFPD) for fire and emergency medical services. The Plymouth Fire Station (Station 22) is one of three fire stations that make up the AFPD Battalion 20.

The Plymouth Fire Station is staffed by 15 volunteer fire fighters. The organization is made up of two (2) Captains and twelve (12) fire fighters. Although the Battalion Chief is responsible for managing all three fire stations, he is currently stationed out of Station 22. Of the fifteen (15) personnel, nine (9) are Emergency Medical Technicians (EMT), three (3) are medical First Responder trained, and twelve (12) ARE early Defibrillation Technicians.

The AFPD currently has about 350 households or businesses it protects within the city, providing fire and medical protection. The AFPD Battalion 20 currently runs over 300 emergency incidents per year. About 50% of the calls for service are inside the city. Response times within the city are under five (5) minutes, and areas within the five mile radius are under ten (10) minutes.

The AFPD currently operates six(6) emergency apparatus out of Station 22. A 1963 American LaFrance structure engine with a 1250 gpm pump, a 1974 Pierce structure engine with a 50' aerial ladder and 1250 gpm pump, two (2) wildland engines, a rescue squad, and one utility vehicle. The AFPD is currently being graded by the Insurance Services Organization (ISO). The City of Plymouth still holds a class 6 insurance rating by the Insurance Services Organization (ISO).

3.13f Police Protection

Due to statewide problems with liability insurance coverage, the City of Plymouth

disbanded its two-man police department in 1985. Police protection is now provided to the City by a contract with the Amador County Sheriff's Office. Under the contract the City is to be assured a minimum of 20 hours of Law Enforcement Service per 24 hour day Police services are housed within a substation provided by the City within the City Hall.

3.13g Schools

There are two (2) schools presently operating in the City of Plymouth; Plymouth Elementary, and the Montessori School.

Plymouth Elementary School teaches kindergarten through sixth grade. Current total enrollment of both schools is 265 students. Approximately 60 percent of these are bussed to the school from areas outside of the City limits. Approximately 35 to 45 students per year promote from the elementary school to Ione Junior High School in Ione.[21]

Projections of new school student enrollment are based on student yield factors contained in the *Twenty Year Facilities Master Plan*, Amador County Unified School District, June 1992. These factors assume 0.7 new students generated by a single family unit and 0.51 new students generated by a multi-family unit. The table below summarizes the number of new students expected to be generated for each school level based on the amount of development projected under the 10- and 20-year horizons.

Grade Level	10-Year (2004) # of students	20-Year (2014) # of students
K-6	64	58
7-8	17	15
9-12	34	31
TOTAL	**115**	**104**

The Amador County Unified School District recommends 10 acres for an elementary school (500-800 enrollment), 20 acres for a junior high school (600-900 enrollment), and 40 acres for a high school (1,200-1,500 enrollment).

Amador County and cities within the county currently require a school mitigation fee of $1.84 per square foot from developers to provide funding to the school district for future needs.

The Monarch Montessori Pre-School has been in Plymouth since 1982. The school offers a unique preschool education in which students, age two through six, are provided instruction in elemental science, history, reading, math, practical life and the senses. The school has 24 students at present who attend only morning pre-school and/or

kindergarten sessions. The school plans to include afternoon sessions in the future.[22]

3.13h Health Care

The predominant health care facility available to citizens in Plymouth is the Sutter Amador Health Center located at Empire and Locust Streets. The center serves approximately 5,000 patient visits per year with comprehensive primary health care. The Center serves the entire north end of Amador County and southern El Dorado County. It is open Monday to Friday, 8 a.m. to 5 p.m. and closed on major holidays. The facility is staffed with one full time physician with admitting privileges to the Sutter Amador Hospital, two part time physicians, one full time nurse, one part time nurse practitioner, one part time physician's assistant and one full time receptionist. The Center is currently seeking to add one half time physician to it's staff. The center charges variable fees depending upon the patient's income. It is subvented by the State as part of the Rural Health Division within the State Department of Health Services. Other medical services available to Plymouth residents include the Amador County Health Department, Amador County Mental Health Department, Sutter Amador Hospital, and the American Legion Ambulance Service, all of which are located 13 miles away in Jackson. At present, it takes the American Legion Ambulance twenty to twenty-five minutes to respond to an emergency call in Plymouth.[23]

3.13i Telephone Services

Telephone service is provided to the Plymouth area by Pacific Bell. Pacific Bell maintains service records and develops forecast information for the area served by the Plymouth Wire Center which includes telephone numbers with the prefix 245. The Plymouth Wire Center area does not coincide with City or county boundaries.

Residential line growth for the past five years has been approximately 23 percent. The projected residential growth for the next five years is 20 percent. Business line growth for the past five years has been approximately 40 percent and is projected to grow at a similar rate in the next five years.

Pacific Bell provides services upon request in accordance with conditions of the California Public Utilities Commission (PUC) tariffs, rules and regulations. Applicants for new service and existing subscribers are encouraged to contact the Pacific Bell offices for information concerning available services, rates and other applicable costs. Developers planning large commercial complexes or residential subdivisions will find early consultations with Pacific Bell advantageous. This will provide beneficial planning information concerning the developer's obligations and give the utility the opportunity to plan for their requirements.[24] ATT Wireless has erected a cellular tower on the east side of town next to the water treatment plant.

3.13j Power

Electrical power is provided to the Plymouth area by the Pacific Gas and Electric

Company (PG&E). PG&E does not provide gas in the area however a number of residents do store and use propane which is available through several suppliers in the region.

PG&E's electrical distribution lines generally follow transportation corridors to and throughout the City. New state law requires that power lines serving new developments with lots less than three acres in size shall be placed underground. PG&E reviews proposed developments for adequate power easements and other considerations. In general, electric utility service is provided in accordance with the appropriate tariffs on file with the PUC.[25]

PG&E also provides home and commercial weatherization programs in an effort to lessen heating and air conditioning costs. Similar home weatherization services are provided to low and moderate income households by the Community Action Agency located at 300 Clinton Road in Jackson.

An underground propane delivery system has been constructed within the Hawksview Estates subdivision. Additionally, Kamps Propane, a provider of residential propane, has negotiated with the City to construct and operate a propane tank facility on land owned by the City and located adjacent to the Hawksview project. Kamps Propane has also negotiated a franchise agreement with City of Plymouth to utilize the underground lines constructed within Hawksview public road rights-of-way to connect to individual homes. Based on the City's desire to minimize the risk associated with individual residential propane tanks, the aesthetic impacts of such tanks, and the availability of a centralized underground delivery system, the City has determined that individual above ground propane storage tanks are not appropriate within the Hawksview Estates subdivision.

3.13k Recreation

Approximately 39 acres of land within the City of Plymouth are devoted to recreational use. This figure includes the Amador County Fairgrounds (30.43 acres), the Plymouth City Park (0.20 acres), Lodge Hill Park (1.91 acres) and playgrounds and open space on public schools land (7.84 acres).

The Amador County Fairgrounds are generally accessible to the citizens of Plymouth. Fairground facilities may be rented for weddings, dances, barbecues and other public or private recreational activities. The City's only public swimming pool is located at the fairgrounds. Public school lands and facilities are similarly available for public use.

There are currently approximately 5.51 acres of parkland per 100 population within the City limits. This figure includes the fairgrounds but does not include park facilities that do exist on private properties such as the Forty-Niner Trailer Park or on church lands. There is also a swimming pool in the City, which is open to the public during the summer.

Plymouth's history is rich yet unrealized (see Section 3.10). The City hopes to develop a museum in an effort to help preserve and enhance the area's history possibly by use of

the historic Oddfellows Hall, which is itself in need of restoration.

3.13l Buildings and Grounds

The City presently uses the Plymouth City Hall for its City offices. Across Main Street from the present Plymouth City Hall is a vacant private lot that is used for City and downtown business parking. Without use of this property, parking would be a serious need within the downtown area. This parking area needs improvement, subject to approval of the owner.

Adjacent to the aforementioned parking area is the 0.2 acre Plymouth City Park. The City Park is in need of a new sprinkler system, landscaping and additional recreational facilities.

Future needs of the City will include a new corporation yard including a maintenance building and fencing. The City's current yard area is owned by the State of California.

As the City's population increases, the present need for youth oriented facilities will increase. Similarly, many new homes in Plymouth are being purchased by retired persons meaning there may be an increased demand for facilities to serve the elderly.

Section 3.12 describes the importance of small retail trade, manufacturing and service industries within Plymouth's economy. Section 2.12 also shows that the local economy is seriously worse than regional and statewide economies. Another issue that may gain priority as an important need of the community is the development of commercial or industrial facilities that would improve the local economy.

3.14 Transportation/Circulation

Appendix B contains the updated Circulation Element of the General Plan, which was adopted in May of 1995. Please refer to this element of the Plan for updated information regarding traffic and circulation in and around town.

The following information is based upon travel characteristics for work trips in Plymouth.

- Of all the work trips made by Plymouth residents, 88 percent are made by automobile.
- Approximately 86 percent of all work trips made by automobile are made by single-occupant vehicles.
- Nine percent of all work trips are made by walking. This percentage is very high in comparison with the statewide average of under 3 percent.
- Although the area is served by transit, none of the work trips reported were made by using public transit. This is significantly lower than the statewide average of 4

percent.

- The mean travel time for all work trips made by Plymouth residents is 22 minutes. This is slightly shorter than the countywide average of 24 minutes.

- Of all work trips made by Plymouth residents, 55 percent leave at varying times between 6:00am and 9:00pm. One-quarter of the work trips leave after 9:00am.

3.14a Streets and Roads

The City of Plymouth is located on State Route 49, the historic "Motherlode Highway" which runs north and south along the Foothills of the Sierra Nevada. The Circulation Element (Appendix B) contains an updated description and discussion of SR 49 including existing and projected traffic counts.

Other streets that carry traffic into or out of the City include the following:

- the Old Sacramento Plymouth Road (from State Route 16 near Forest Home 6.1 miles to and becoming Main Street in Plymouth);

- the Plymouth Shenandoah Road, State Route E-16 (from Highway 49 at the east end of Main Street, approximately 5.2 miles to River Pines, 6 miles);

- the Plymouth-Fiddletown Road (from Plymouth-Shenandoah Road to Fiddletown).

These roads are all County maintained up to the City limits. The Plymouth-Drytown Road (County Road 81) was another County maintained road serving Plymouth. It was recently abandoned by the County Board of Supervisors. The City's road maintenance is conducted by a Public Works Department whose job also includes maintenance of the City's water and sewer systems.

3.14b Street Classification System

The Circulation Element (Appendix B) contains an updated description and discussion of the City's street classification system.

3.14c Public Transit

The City of Plymouth is served by Amador Rapid Transit (ART). ART currently operates a fixed-route system connecting Plymouth with other cities in Amador County each week Monday through Friday.

The primary source for funds used to operate ART has been the Local Transportation Fund (LTF). The LTF was made available by the Transportation Development Act of 1971 (Senate Bill 325) which required 1/4 cent of the State's $0.06 sales tax be returned to cities and counties for transportation purposes. ART has been successful in obtaining

other Federal and State funds for additional capital and operating expenses. The minimal fares required for service pay only a portion of ART's overall costs.
Amador Stage Lines presently provides charter service between Jackson and Lake Tahoe. The Intercounty Transit Service between Jackson and Sonora was terminated in 1983 due to insufficient ridership. The nearest Greyhound Bus Station for citizens of Plymouth is in Placerville approximately 22 miles away. Other agencies that may provide transportation services to qualified City residents by special arrangement include Central Sierra Elderly Assistance or the Tuolumne Rural Indian Health Clinic. ARTS also provides a connection with Sacramento Regional Transit at Rancho Murrieta.

3.14d Parking

The Plymouth Zoning Ordinance states: "No structure shall be constructed unless open spaces for automobile parking and truck loading and unloading are permanently provided and maintained for the benefit of residents, employees, customers and visitors, within or outside of buildings or in a combination of both..." The ordinance goes on to specify the number of parking spaces that must be provided with any new residential or other type of development. Parking is also allowed on most city streets. The need for downtown" parking is discussed in Section 2.13l.

3.14e Aviation

Westover Field, a County airport located in Martell, is the nearest airport available to the citizens of Plymouth. This facility can handle almost any type of general aviation aircraft (everything except airliners). It is classified as a Basic Utility I Airport. It has a paved, lighted runway that is 3,400 feet long and 60 feet in width. The facility is situated at an elevation of 1,694 feet above sea level. It accommodates both visual flight rule and instrument flight rule approach procedures. According to the Amador County Airport Administrator, a total of 105 aircraft were based at the airport in 1999. This includes 101 single engine aircraft and 4 multi-engine aircraft. In addition 5 ultra-light and 3 helicopters are also based at the airport. The estimated annual aircraft operations is 43,422.

There is no direct air passenger service in the County. No charter service is available at Westover Field, however a medical aircraft is available for emergencies only. The only operative private airport near Plymouth is located at Rancho Murietta, approximately 16 miles west on Highway 16.

3.14f Railroads

Limited rail freight service is available in Amador County only as far as Ione, and Martell. Passenger service may be found in Stockton or Sacramento.

3.14g Bicycle Facilities

There are no designated bicycle routes on the local streets in Plymouth. Caltrans has formulated a Bicycle Touring Guide for District 10 and a 1980 Amador County Bike Plan.

State Highway 49 through Plymouth is considered part of the Statewide Bicycle Route System. Caltrans will give special consideration to the needs of cyclists whenever Highway 49 is improved. Caltrans District 10 can help the City locate potential funding for bicycle transit improvements within the City if necessary.

3.14h Pedestrian Facilities

Pedestrian walkways exist in downtown Plymouth and in some of the more recently developed residential areas of the City. Most of the remainder of Plymouth has no improved sidewalks. Sidewalks have been required by the City Planning Commission in new subdivisions that will contain high density residential development.

3.15 Noise

Noise is defined as loud or unwanted sound and is a basic part of the environment. Essential in such areas as communications and musical enjoyment, it can also pose a threat to health and safety. Excessive and unwanted noise exposure represents an annoyance which can lead to anxiety, stress, and hearing loss. Generally the intensity and duration of any given noise determines its acceptability. Loud noises over short periods of time are more tolerable than those of long duration, and noise levels which are acceptable during daytime hours can be unacceptable at night. In most cases, the ambient noise levels associated with outdoor and rural land uses are lower than levels found in urban land uses.

State law requires that General Plans contain a Noise Element "which quantifies the community noise environment in terms of noise exposure for both near and long term levels of growth and traffic activity."[26] The California Department of Health, Office of Noise Control has prepared guidelines for local Noise Elements that include community noise exposure standards. These standards are incorporated by reference into the Plymouth General Plan. In general, normally acceptable noise exposure for single family residential uses within the City are 60 to 65 dB.

Noise generators in the environment fall into two categories: mobile sources and stationary sources. Mobile sources include automobile and truck traffic, off-road vehicles, railroads and aircraft operations. Stationary sources occur within well-defined boundaries and include industrial, commercial, agricultural, and logging activities. Vehicle traffic represents the primary noise source within the area. Secondary sources within the City include commercial/industrial operations, construction activities, and residential exterior maintenance activities.

Map #7 shows noise contours along Highway 49 and noise levels monitored at specific sites within the City on November 1, 1984 (see Map #7). The map also shows particularly noise sensitive land uses (public schools and medical facilities) as they presently exist. See Chart #6 to explain the decibel (dB) levels shown on Map #7 (see Chart #6). Chart #7shows community noise exposure standards recommended by the California Office of Noise Control (see Chart #7). It is worthwhile to note that on the morning that noise levels

were monitored in the City, greater noise was generated adjacent to a public school playground than adjacent to a small saw mill and automobile dismantling operation. This is because when the noise sources were taken the school was in recess and mill operations were temporarily shut down.

Human response to various noises is just as important a consideration as actual noise level. Human response to noise varies significantly depending on a number of factors including the following:

1) Length of intensity. A high level of noise is more objectionable than a constant low level of noise. Intermittent peak noise levels are more objectionable than a steady state level.

2) Frequency distribution. Humans have greater sensitivity to higher frequency sounds.

3) Time pattern. An automobile horn at 2:00 a.m. is more disturbing than the same noise in traffic at 5:00 p.m.

4) Amount of background noise present before the intruding noise. People tend to compare an intruding noise with the existing background noise. If new noise is readily identifiable or considerably higher than the background or ambient, it usually becomes objectionable. An aircraft flying over a residential area is an example.

5) The nature of the work or living activity that is exposed to the noise source. Highway traffic noise might not be disturbing to workers in a factory or office but the same noise might be annoying or objectionable to people sleeping at home or studying in a library.

CITY OF PLYMOUTH

MAP 7 NOISE

60 dB
70 dB
NOISE CONTOURS, expressed as dB Ldn* based on Caltrans estimates of highway noise generation

1 67 dB
2 59 dB
3 44 dB
4 57 dB

MONITORED NOISE LEVELS, expressed as dB Leq** based on ten to twenty minute samples taken by Caltrans on the morning of November 1,1984

NOISE SENSITIVE LAND USES

1 --Plymouth Elementary School (West)

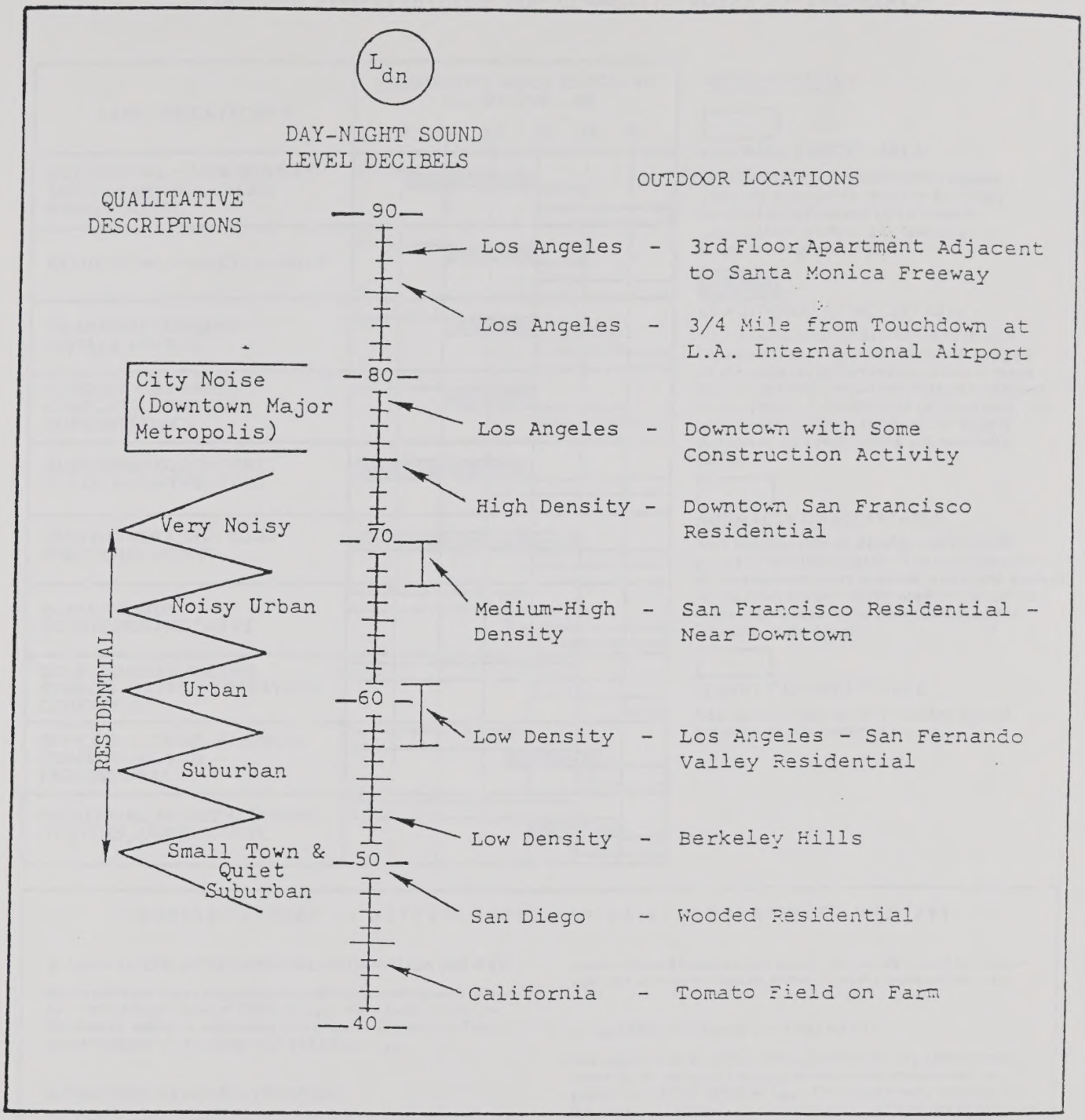
2 --Plymouth Elementary School (East)

3 --Plymouth Medical Clinic

*Ldn-- Sound level, day, night. This is a 24 hour Leq with a 10 dB penalty applied to the period between 10 pm and 7 am.

**Leq--The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy as time varying sound level during the same period

CHART #5

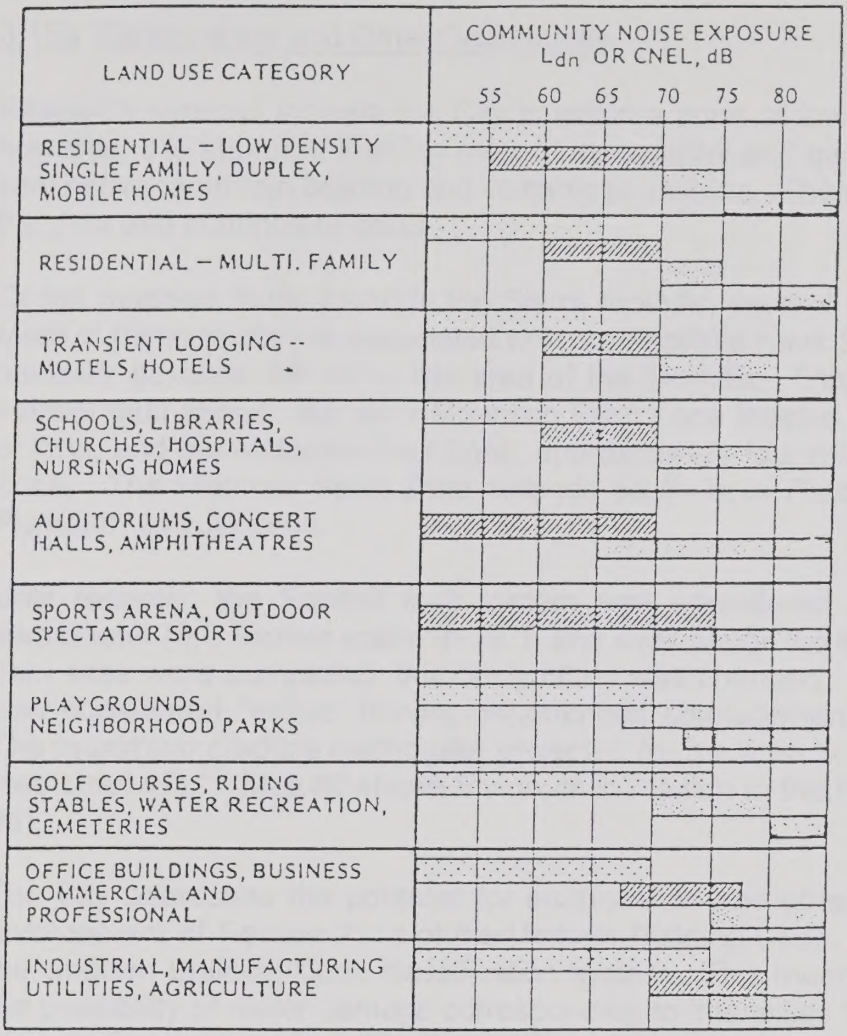


RANGE OF TYPICAL OUTDOOR NOISE ENVIRONMENTS
EXPRESSED IN TERMS OF DAY NIGHT SOUND LEVEL (L_{dn}), dB

Source: California Department of Health, Office of Noise Control, Guidelines for Preparation and Content of Noise Elements of the General Plan, (Berkeley, CA), February, 1976, p. 27.

CHART #6

LAND USE COMPATABILITY FOR COMMUNITY NOISE ENVIRONMENTS



INTERPRETATION

NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE–COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Office of Noise Control, (Berkeley, 1976) p. 26.

3.16 Hazards

3.16a Earthquakes and Other Geohazards

Research sources indicate the City is within a zone of low potential earthquake hazard, however, it is apparent that the present topography and geology of the area is a result of very active mountain building and volcanic processes. These processes have occurred in the past and continue to occur.

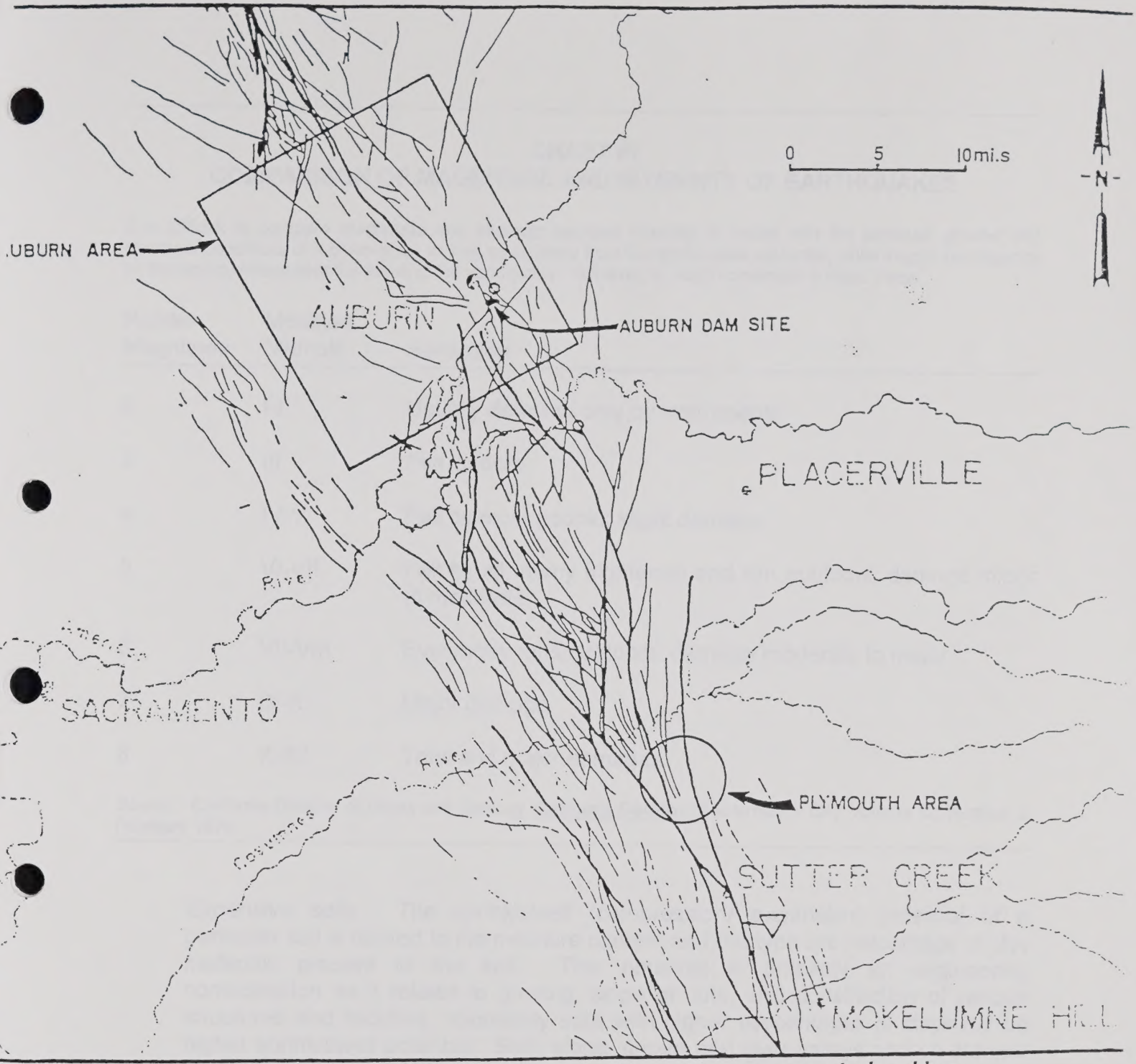
Of the mapped faults found in the Sierra foothills, several are found in Amador County. Most of these faults are associated with the Foothills Fault System, a seismic zone which basically parallels SR 49 in this area of the foothills. This system is composed of two parallel fault zones: the Bear Mountain Fault Zone located approximately two miles east of Ione, and the Melones Fault Zone, approximately four miles east of the Bear Mountain Zone. The Melones Fault Zone extends south from Placerville, through the towns of Plymouth and Jackson.

Until recently, the Foothill fault system was considered inactive. After the Oroville earthquake (5.7 Richter scale) in 1975 and evaluations for the Auburn and New Melones dam sites were completed, this designation was changed. The Foothills fault system is now considered "active" (having experienced displacement in the last 100,000 years). The maximum credible earthquake projected for the area is 6 to 6.5, on the Richter scale (see chart #7).[27] Map #8 shows Plymouth in relation to the Foothill fault system (see Map #8).

The City addresses the potential for earthquakes and other geological hazards through enforcement of Section 2312 of the Uniform Building Code. Plymouth is in Zone 3 under the Uniform Building Code classification system. This means the State believes there is the possibility of major damage corresponding to intensities VIII or higher on the Modified Mercalli Scale (see chart #7). In the Plymouth area the code requires soils analysis and other sub-surface exploration, and specifies special design requirements for building and foundation stress capabilities, masonry and concrete reinforcement, and building spacing.

Other primary areas of geological hazard in the City include the potential for erosion, shrinking/swelling of soils, landslides, old mines, subsidence, and liquifaction. All are factors require consideration in the siting and construction of various land uses and infrastructure. All require analysis by qualified geotechnical engineers.

> *Erosion.* Erosion is affected by slope, precipitation, and vegetative covering. In general, erosion rates are higher in areas of steep slopes, high rainfall amounts, and/or areas where the protective vegetation has been removed by fires, construction, or cultivation. In addition, areas of high to very high erosion hazard are typically underlain by granitic, volcanic, or metavolcanic rocks.



MAP 8 Location of Plymouth with respect to the Foothill Fault System & Auburn Dam Project

--Liniament zone, weak to moderate expression on imagery.

--Liniament zone, strong expression on imagery.

--Location of fault displacenent in the late Cenozoic deposits based on imagery interpretation.

SOURCE: Woodward-Clyde Consultants, Earthquake Evaluation Studies of the Auburn Dam Area, (San Fransisco, CA), July,1977, Vol.2,p.29.

CHART #7
COMPARISON OF MAGNITUDE AND INTENSITY OF EARTHQUAKES

It is difficult to compare magnitude and intensity because intensity is linked with the particular ground and structural conditions of a given area) as well as distance from the earthquake epicenter, while magnitude depends on the energy released at the focus of the earthquake. However, a rough correlation is listed below.

Richter Magnitude	Modified Mercalli	Sensation
2	I-I	Usually detected only by instruments
3	III	Felt indoors
4	IV-V	Felt by most people; slight damage
5	VI-VII	Felt by all; many frightened and run outdoors; damage minor to moderate
6	VII-VIII	Everybody runs outdoors; damage moderate to major
7	IX-X	Major damage
8	X-XII	Total and major damages

Source: California Division of Mines and Geology, California Geology (Sacramento, CA), Volume 32, Number 2, February 1979.

Expansive soils. The shrink/swell (compression/ expansion) potential of a particular soil is related to the moisture content and the type are percentage of clay materials present in the soil. This potential is primarily an engineering consideration as it relates to grading, slope of cuts, and construction of various structures and facilities. Generally soils with higher percentages of clays exhibit higher shrink/swell potential. Soils along stream and river valleys and on steeper mountain slopes usually exhibit low expansion potential. Soils which are found on the more moderate slopes and ridgetops exhibit moderate expansion.

Landslides. The landslide susceptibility of an area is dependent upon several variables including: slope steepness, slope material, material structure and layering, water content, vegetation, erosion areas/man-made cuts, and seismic activity.

Old Mines. Risk of upset or surface collapse is not generally considered a high risk because the gold mines were primarily vertical excavations carved out of solid

rock. Of greater concern are past ore processing and extraction processes which utilized mercury and cyanide, known toxins. Depending on how pervasive these compounds are in the environment, past mining activities could significantly affect soil and surface water quality within this development area.

Subsidence. Subsidence normally occurs as material such as groundwater. oil, or mineral deposits are withdrawn from below the earth's surface. This may later cause the earth's surface to sink and may be triggered by earthquake.

Liquifaction. Liquefaction occurs when saturated, loose, granular materials such as silt, sand and gravel change to the consistency of quick sand after a sudden stress like an earthquake. This may occur in road fills or mine tailings. Ground failure or foundation failure may be caused by the lateral spreading of soft saturated clays which lose strength causing structures built on them to gradually settle or break up.

3.16b Flooding

Map #9 shows "special flood hazard areas" within the city limits as designated by the Federal Insurance Administration (FIA) in November 1976 (see Map #9). The identified flood hazard areas (Zone A) represent areas that the FIA believes would be inundated by the greatest flood occurrence over a 100 year period. The City has not officially adopted or endorsed FIA flood hazard boundaries. The FIA information is however incorporated into this document in an effort to serve State requirements that 100 year flood plains be identified within the General Plan because more accurate City-wide flood plain information is unavailable at the present time.

3.16c Emergency Services

The Office of Emergency Services is currently rewriting the Amador County Emergency Operations Plan to comply with the Standardized Emergency Management System and Incident Command System. The Joint Powers Agency for the Amador County Operational Area Organization (ACOAO) was established on November 7, 1995. The purpose of ACOAO is to provide for greater efficiency, planning and response to emergencies and disasters in the County. The Chairman of the Amador County Board of Supervisors is the Director of Emergency.[28]

The City of Plymouth is responsible for all disaster planning, response and coordination within the city limits. The Office of Emergency Services may be contacted to support and assist the city in disaster or emergency situations. All requests for Mutual Aid or State Resources must be coordinated through the Amador County Operational Area Coordinator which is the Amador County emergency Services Coordinator.[29]

3.16d Wildland and Urban Fires

The City of Plymouth does have a wildland-urban interface problem to contend with. The fuel load on land surrounding Plymouth is comprised primarily of annual grasses, oaks and other surface vegetation. The fuel loading would probably be classified as moderate. Along the fringes of the City, the grazing of livestock helps reduce the fuel loading. Within the City, small empty parcels do cause some concern for fire hazard, however an abatement ordinance is in place to handle this problem. One note is that a weed abatement specific hazard reduction ordinance would address the problem more appropriately, and help deal with the question of varying sized parcels within the city.

The City does have significant threat of fire loss along Main Street due to common walls, common attics, building materials, and pre-building code construction. A fire along Main Street could pose a significant threat to the downtown section of the City. Knowing that such a hazard is present, mutual aid agreements are in place to provide additional personnel and equipment in the event the need arises.

SECTION 4.0
ENDNOTES

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[2] California Department of Conservation (DOC), Division of Mines and Geology (DMG), Mineral Land Classification of the Sutter Creek 15' Quadrangle -- Amador and Calaveras Counties (Sacramento: California)1983, p. 21.

[3] Jenkins (1948), p. 23, 27.

[4] DOC, DMG, p. 12, 16, Plate 7.

[5] DOC, DMG, p. 12, 16, Plate 6.

[6] United States Department of Agriculture Soil Conservation Service (USDA SCS) and California Agricultural Experiment Station (AES), Soil Survey, Amador Area, California, (US Government Printing Office, Washington DC) 1965, p. 92.

[7] Ibid, p. 62.

[8] Ibid, p. 85.

[9] Ibid, p. 62.

[10] Ibid, p. 45.

[11] Amador County Water Agency, Water Resources -- Amador County, Jackson, California, March 1967, p. 3, 4.

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[15] Tracy I. Storer and Robert L. Usinger, Sierra Natural History (University of California Press: Berkeley, California) 1971, p. 26-35.

[16] Baughman, 1984. Department of Fish and Game California Natural Diversity Data Base (CNDDB), July 1994.

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[23] Antonio Moreno, Fire Chief, Plymouth, personal contact, October 19, 1992.

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[26] California Government Code Section 65302(g).

[27] Woodward & Clyde Consultants, Earthquake Evaluation Studies for the Auburn Dam, San Francisco, California, 1977, Vol. 1. p. ii.

[28] Mary Culver, Amador Office of Emergency Services, personal contact, October 7, 1992.

[29] Gloria Stoddard, City Clerk, City of Plymouth, personal contact, October 7, 1992.

SECTION 5.0
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APPENDICES

APPENDIX A
AMENDING RESOLUTIONS

APPENDIX B
CIRCULATION ELEMENT

APPENDIX C
HOUSING ELEMENT